

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.11.94
Test oil : ISO 4113

Combination No. : 0 402 046 865A

Injection pump
Pump designation : PES6P120A320LS3321
: -1
EP type number : 0 412 026 766

Governor
Governor design. : RQ275...950PA1085-1
Governor no. : 0 421 801 691

Cust. part No. : 645 673

Customer-spec. information
Customer : RABA
Motor : SIEHE BEMERKUNG

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

A01

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.05
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 197.0
<hr/>	
Tolerance	
cm ³ /1000 strokes	: +- 1.0
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Check tolerance	
cm ³ /1000S.	: +- 4.0
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Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
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Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 275
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Rack travel in mm	: 9.10
Tolerance mm	: +- 0.30
Del. quantity	
cm ³ /1000 strokes	: 22.0
Tolerance	
cm ³ /1000 strokes	: +- 3.0
Check tolerance	
cm ³ /1000S.	: +- 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 2.26
Tolerance mm	: +- 0.10
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Rated speed rpm	: 1020
guide sleeve	
travel mm	: 6.35
Tolerance mm	: +- 0.10
<hr/>	
Rated speed rpm	: 950
guide sleeve	
travel mm	: 6.00
Tolerance mm	: +- 0.10
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Rated speed rpm	: 369
guide sleeve	
travel mm	: 4.64
Tolerance mm	: +- 0.10

Rated speed rpm	: 460
guide sleeve	
travel mm	: 6.00
Tolerance mm	: +- 0.10
<hr/>	
Rated speed rpm	: 1190
guide sleeve	
travel mm	: 11.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 500
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Rack travel in mm	: 20.00
Tolerance mm	: +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 600
Aneroid pressure	
hPa	: 900
Del. quantity	
cm ³ /1000 strokes	: 197.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 36.0
tolerance degree	: +- 4.0
<hr/>	
control lever	
position degree	: 98.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 13.05
Rated speed rpm	: 1012
Tolerance 1/min	: +- 5
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rack travel mm	: 4.00
Rated speed rpm	: 1100
Tolerance 1/min	: +- 15
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rack travel mm	: 0.50
Tolerance mm	: +- 0.50

Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

control lever
position degree : 11.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 5.80
Tolerance mm : ± 0.10

Rated speed rpm : 355
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 14.05
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 14.05
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.80
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 380
rack travel mm : 12.20
Tolerance mm : ± 0.20

Pressure hPa : 590
rack travel mm : 13.50
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 198.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 116.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.05
Rated speed rpm : 1012
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : 9.10
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm3/1000 strokes : ± 3.0
Check tolerance
cm3/1000S. : ± 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.01.95
Test oil : ISO 4113
Combination No. : 0 402 046 865B
Injection pump
Pump designation : PES6P120A320LS3321
: -1
EP type number : 0 412 026 776
Governor
Governor design. : RQ275...1100PA1085
: -1
Governor no. : 0 421 801 761
Cust. part No. :

Customer-spec. information
Customer : RABA
Motor : SIEHE BEMERKUNG

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089

AD5

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 12.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery mark
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600
Rack travel in mm : 14.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 198.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 9.50
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 0.76
Tolerance mm : ± 0.10

Rated speed rpm : 1116
guide sleeve
travel mm : 7.85
Tolerance mm : ± 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 387
guide sleeve
travel mm : 3.58
Tolerance mm : ± 0.10

Rated speed rpm : 500

guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1240
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 500

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 198.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 47.0
tolerance degree : ± 4.0

control lever
position degree : 109.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.00
Rated speed rpm : 1150
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1220
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : +- 4.0

control lever
position degree : 10.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 6.50
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 375
Tolerance 1/min : +- 20

Rated speed rpm : 175
CRT mm min. : > 8.50

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.00
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 14.10
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.85
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 120
rack travel mm : 12.10
Tolerance mm : +- 0.15

Pressure hPa : 340
rack travel mm : 13.50
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 198.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 1150
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : 9.50
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113
Combination No. : 0 402 076 748
Injection pump
Pump designation : PES6P110A720RS3305
: -1
EP type number : 0 412 016 742
Governor
Governor design. : RSV300...1100P1A555
Governor no. : 0 421 833 379

Cust. part No. : 9271058

Customer-spec. information
Customer : LIEBHERR
Motor : D 926 TI
Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 207.5
Tolerance bar : ± 1.5

A09

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.20
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 165.0

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Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 3.5
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 7.5
<hr/>	
Rated speed rpm	: 400
<hr/>	
Rack travel in mm	: 4.40
Tolerance mm	: ± 0.10
Del. quantity	
cm ³ /1000 strokes	: 36.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 5.5
Spreed	
Tolerance	
cm ³ /1000 strokes	: 4.5
Check tolerance	
cm ³ /1000S.	: 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure	
hPa	: 1100
Del. quantity	
cm ³ /1000 strokes	: 165.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 3.5
Spreed	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 7.5

CONTROL LEVER

control lever	
position degree	: 108.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 10.25
Rated speed rpm	: 1040
Tolerance 1/min	: ± 5

rack travel mm	: 4.00
Rated speed rpm	: 1095
Tolerance 1/min	: ± 15

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1260

rack travel mm	: 4.00
Rated speed rpm	: 1100

LOW IDLE

control lever	
position degree	: 78.0
tolerance degree	: ± 4.0

Setting point w/out bumper spring

Rated speed rpm	: 400
rack travel mm	: 3.90

Testing:

Rated speed rpm	: 400
rack travel mm	: 4.40
Tolerance mm	: ± 0.10

rack travel mm	: 2.00
Rated speed rpm	: 450
Tolerance 1/min	: ± 30

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 11.25
Tolerance mm	: ± 0.05

Rated speed rpm	: 600
rack travel mm	: 11.25
Tolerance mm	: ± 0.10

Rated speed rpm : 500
rack travel mm : 11.25
Tolerance mm : ± 0.10

Rated speed rpm : 450
rack travel mm : 12.20
Tolerance mm : ± 0.10

Rated speed rpm : 400
rack travel mm : 12.20
Tolerance mm : ± 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 1100
rack travel mm : 11.25
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 550
rack travel mm : 9.75
Tolerance mm : ± 0.10

Rated speed rpm : 550

Pressure hPa : 650
rack travel mm : 11.00
Tolerance mm : ± 0.05

Pressure hPa : 550
rack travel mm : 10.25
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 186.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 550

Del. quantity
cm³/1000 strokes : 152.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 10.25
Rated speed rpm : 1040
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 4.40
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 36.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.5
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.09.95
Test oil : ISO 4113

Combination No. : 0 402 076 750

Injection pump
Pump designation : PES6P120A720RS3311
EP type number : 0 412 026 760

Governor
Governor design. : RSV400...1050POA602
Governor no. : 0 421 833 483

Cust. part No. :

Customer-spec. information
Customer : FNH-GEOTECH
Motor : P396
Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 100
Tolerance l/h : ± 20.0

Test nozzle holder assembly : 1 688 901 103

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.45
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 158.0

Tolerance
 cm³/1000 strokes : +- 1.0

Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 5.20
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 26.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : +- 0.20

governor spring
 pre-tension
 click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 158.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed

Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 96.0
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1320

rack travel mm : 4.00
 Rated speed rpm : 1160

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093
 rack travel mm : 10.45

Rated speed rpm : 1153
 Tolerance 1/min : +- 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1320

Rated speed rpm : 1094
 rack travel mm : 10.45

Rated speed rpm : 1154
 Tolerance 1/min : +- 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1096

Rated speed rpm : 1095
 rack travel mm : 10.45

Rated speed rpm : 1155
 Tolerance 1/min : +- 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : +- 0.55

Rated speed rpm : 1096
 rack travel mm : 10.45

Rated speed rpm : 1156

Tolerance 1/min : + 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : + 0.55

 Rated speed rpm : 1097
 rack travel mm : 10.45

 Rated speed rpm : 1157
 Tolerance 1/min : + 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : + 0.55

 Rated speed rpm : 1098
 rack travel mm : 10.45

 Rated speed rpm : 1158
 Tolerance 1/min : + 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : + 0.55

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : + 4.0

 Setting point w/out bumper spring

 Rated speed rpm : 400
 rack travel mm : 4.70

 Testing:

 Rated speed rpm : 400
 rack travel mm : 5.20
 Tolerance mm : + 0.10

 rack travel mm : 2.00
 Rated speed rpm : 530
 Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 11.45
 Tolerance mm : + 0.05

 Rated speed rpm : 750
 rack travel mm : 12.50
 Tolerance mm : + 0.10

Rated speed rpm : 935
 rack travel mm : 12.00
 Tolerance mm : + 0.10

 Rated speed rpm : 700
 rack travel mm : 12.50
 Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1500
 rack travel mm : 12.50
 Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 rack travel mm : 9.40
 Tolerance mm : + 0.10

Rated speed rpm : 500

 Pressure hPa : 950
 rack travel mm : 12.25
 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1500
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 194.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 127.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 5.20
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.06.95
Test oil : ISO 4113

Combination No. : 0 402 076 768

Injection pump
Pump designation : PES6P120A720RS3322
EP type number : 0 412 026 764

Governor
Governor design. : RSV650...1250P8A567
: -2
Governor no. : 0 421 833 443

Cust. part No. :

Customer-spec. information
Customer : FNH-GEOTECH
Motor : 7,5l - DI
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 153.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 5.0

<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm :	650
<hr/>	
Rack travel in mm :	4.80
Tolerance mm :	+ 0.20
Del. quantity	
cm ³ /1000 strokes :	21.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
<hr/>	
Rack travel in mm :	0.50
Tolerance mm :	+ 0.20
<hr/>	
governor spring	
pre-tension	
click setting x :	3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1200
Aneroid pressure	
hPa :	1000
Del. quantity	
cm ³ /1000 strokes :	153.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S.	: + 5.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree :	109.0
tolerance degree :	+ 4.0

RATED SPEED

Rated speed rpm :	1300
-------------------	------

ASSEMBLY GOVERNOR SETTING

Rated speed rpm :	1263
rack travel mm :	10.45

Rated speed rpm :	1295
Tolerance 1/min :	+ 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1500

Rated speed rpm :	1264
rack travel mm :	10.45

Rated speed rpm :	1296
Tolerance 1/min :	+ 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55

Rated speed rpm :	1265
rack travel mm :	10.45

Rated speed rpm :	1297
Tolerance 1/min :	+ 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55

Rated speed rpm :	1266
rack travel mm :	10.45

Rated speed rpm :	1298
Tolerance 1/min :	+ 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55

Rated speed rpm :	1267
rack travel mm :	10.45

Rated speed rpm :	1299
Tolerance 1/min :	+ 5

rack travel mm : 4.00
 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1268
 rack travel mm : 10.45
 Rated speed rpm : 1300
 Tolerance 1/min : ± 5
 rack travel mm : 4.00
 rack travel mm : 0.85
 Tolerance mm : ± 0.55

LOW IDLE

control lever
 position degree : 80.0
 tolerance degree : ± 4.0
 Setting point w/out bumper spring

Rated speed rpm : 650
 rack travel mm : 4.30

Testing:

Rated speed rpm : 650
 rack travel mm : 4.80
 Tolerance mm : ± 0.10
 rack travel mm : 2.00
 Rated speed rpm : 770
 Tolerance 1/min : ± 50

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 11.45
 Tolerance mm : ± 0.05
 Rated speed rpm : 900
 rack travel mm : 11.80
 Tolerance mm : ± 0.10
 Rated speed rpm : 1100
 rack travel mm : 11.60
 Tolerance mm : ± 0.10
 Rated speed rpm : 700
 rack travel mm : 11.90
 Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1000
 rack travel mm : 11.90
 Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 rack travel mm : 7.90
 Tolerance mm : ± 0.10
 Rated speed rpm : 500
 Pressure hPa : 595
 rack travel mm : 11.45
 Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
 Check
 speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 900
 Del. quantity
 cm³/1000 strokes : 170.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 6.0
 Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 83.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 650
rack travel mm : 4.80
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.96
Test oil : ISO 4113

Combination No. : 0 402 076 787

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV400...1050POA602
Governor no. : 0 421 833 483

Cust. part No. :

Customer-spec. information
Customer : FNH-GEOTECH
Motor : EPD40B
Power KW : 176.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 100
Tolerance l/h : ± 20.0

Test nozzle holder assembly : 1 688 901 103

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery blocking

Check tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm	:	11.25
Tolerance mm	:	+ 0.05
<hr/>		
Del. quantity cm ³ /1000 strokes	:	158.0
<hr/>		
Tolerance cm ³ /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	+ 6.0
<hr/>		
Spread Tolerance cm ³ /1000 strokes	:	5.0
<hr/>		
Check tolerance cm ³ /1000S.	:	9.0
<hr/>		
Rated speed rpm	:	400
<hr/>		
Rack travel in mm	:	5.00
Tolerance mm	:	+ 0.20
Del. quantity cm ³ /1000 strokes	:	26.0
Tolerance cm ³ /1000 strokes	:	+ 3.0
Check tolerance cm ³ /1000S.	:	+ 6.0
Spread Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	:	800
<hr/>		
Rack travel in mm	:	0.50
Tolerance mm	:	+ 0.20
<hr/>		
governor spring pre-tension click setting x	:	4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1050
Aneroid pressure hPa	:	1600

Del. quantity cm ³ /1000 strokes	:	158.0
Tolerance cm ³ /1000 strokes	:	+ 1.0
Check tolerance cm ³ /1000S.	:	+ 6.0
Spread Tolerance cm ³ /1000 strokes	:	5.0
Check tolerance cm ³ /1000S.	:	9.0

CONTROL LEVER

control lever position degree	:	94.0
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RATED SPEED

rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1320
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1165

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	:	1093
rack travel mm	:	10.20
<hr/>		
Rated speed rpm	:	1148
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00
<hr/>		
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
<hr/>		
Rated speed rpm	:	1094
rack travel mm	:	10.20
<hr/>		
Rated speed rpm	:	1149
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00
<hr/>		
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
<hr/>		
Rated speed rpm	:	1095
rack travel mm	:	10.20
<hr/>		
Rated speed rpm	:	1150
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00
<hr/>		
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55

Rated speed rpm : 1096
rack travel mm : 10.20

Rated speed rpm : 1151
Tolerance 1/min : +- 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : +- 0.55

Rated speed rpm : 1097
rack travel mm : 10.20

Rated speed rpm : 1152
Tolerance 1/min : +- 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : +- 0.55

Rated speed rpm : 1098
rack travel mm : 10.20

Rated speed rpm : 1153
Tolerance 1/min : +- 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : +- 0.55

LOW IDLE

control lever
position degree : 73.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.50

Testing:

Rated speed rpm : 400
rack travel mm : 5.00
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 535
Tolerance 1/min : +- 50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.25
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 12.40
Tolerance mm : +- 0.05

Rated speed rpm : 600
rack travel mm : 12.50
Tolerance mm : +- 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 12.50
Tolerance mm : +- 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.10
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 980
rack travel mm : 11.40
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 94.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 5.00
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.96
Test oil : ISO 4113

Combination No. : 0 402 646 743

Injection pump
Pump designation : PE6P120A320LS7837-2
EP type number : 0 412 626 943

Governor
Governor design. : RQ300/1100PA1271
Governor no. : 0 421 801 803

Cust. part No. : 0270743102

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 260.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.50

Rack travel in mm : 14.50
Tolerance mm : ± 0.10
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 234.5

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.00
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.94
Tolerance mm : +- 0.20

Rated speed rpm : 1152
guide sleeve
travel mm : 6.34
Tolerance mm : +- 0.15

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : +- 0.10

Rated speed rpm : 431
guide sleeve
travel mm : 4.71
Tolerance mm : +- 0.10

Rated speed rpm : 570

guide sleeve
travel mm : 6.00
Tolerance mm : +- 0.10

Rated speed rpm : 1350
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 650

Rack travel in mm : 20.00
Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 850
Del. quantity
cm³/1000 strokes : 234.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 100.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 14.60
Rated speed rpm : 1140
Tolerance 1/min : +- 8

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : +- 15

rack travel mm : 0.75
Tolerance mm : +- 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 9.00

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.50
Tolerance mm : ± 0.05

Rated speed rpm : 1100
rack travel mm : 15.60
Tolerance mm : ± 0.10

Rated speed rpm : 700
rack travel mm : 15.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 200
rack travel mm : -4.00
Tolerance mm : ± 0.05

Pressure hPa : 500
rack travel mm : -1.60
Tolerance mm : ± 0.15

Pressure hPa : 1200
rack travel mm : 0.45
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1100

Del. quantity
cm³/1000 strokes : 264.0
Tolerance

cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 262.0
Tolerance

cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 151.0
Tolerance

cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 14.60
Rated speed rpm : 1140
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 250.0

Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.00
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.04.92
Test oil : ISO 4113

Combination No. : 0 402 646 955

Injection pump
Pump designation : PE6P120A320LS7834-1
EP type number : 0 412 626 857

Governor
Governor design. : RQV350...1050PA866
: -13
Governor no. : 0 421 813 954

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Overflow quantity
min. L/h : 110
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 2.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.70

Rack travel in mm : 14.70
Tolerance mm : ± 0.10
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 223.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.40
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.50
Tolerance mm : ± 0.10

Rated speed rpm : 1200
guide sleeve
travel mm : 8.75
Tolerance mm : ± 0.25

guide sleeve
travel mm : 4.10
Tolerance mm : ± 0.20

guide sleeve
travel mm : 7.00
Tolerance mm : ± 0.20

GUIDE SLEEVE POSITION

Rated speed rpm : 1130
Rack travel in mm : 17.25
Tolerance mm : ± 0.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 223.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 121.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.70
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1175
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 67.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.40
Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm min. : > 7.30
Rated speed rpm : 475

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.70
Tolerance mm : ± 0.10

Rated speed rpm : 1050
rack travel mm : 14.90
Tolerance mm : ± 0.10

Rated speed rpm : 800
rack travel mm : 15.30
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 300
rack travel mm : -3.10
Tolerance mm : ± 0.05

Pressure hPa : 600
rack travel mm : -1.10
Tolerance mm : ± 0.10

Pressure hPa : 1350
rack travel mm : 0.20
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 270

Check
speed 1/min : > 80
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1800
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 235.5

Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1800
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 243.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1800
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 177.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.70

Rated speed rpm : 1095
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.40
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.01.96
Test oil : ISO 4113
Combination No. : 0 402 646 985
Injection pump
Pump designation : PE6P120A320RS7248
 : -10Z
EP type number : 0 412 626 901
Governor
Governor design. : RQ275/1150PA987
Governor no. : 0 421 801 578
Cust. part No. : 1248038/4

Customer-spec. information
Customer : DAF
Motor : RS 200 L
Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 1.0
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 11.35
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 167.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : + 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 5.0

 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 275
 Rack travel in mm : 5.40
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 16.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 550
 Rack travel in mm : 15.80
 Tolerance mm : + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 167.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

B05

control lever
 position degree : 101.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.35
 Rated speed rpm : 1207
 Tolerance 1/min : + 8
 rack travel mm : 4.00
 Rated speed rpm : 1290
 Tolerance 1/min : + 15
 rack travel mm : 0.70
 Tolerance mm : + 0.70
 Rated speed rpm : 1450

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 275
 rack travel mm : 4.70
 Tolerance mm : + 0.10
 rack travel mm : 2.00
 Rated speed rpm : 340
 Tolerance 1/min : + 20
 Rated speed rpm : 175
 CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 11.35
 Tolerance mm : + 0.05
 Rated speed rpm : 1150
 rack travel mm : 11.35
 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.35
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 9.20
Tolerance mm : +- 0.15

Rated speed rpm : 600

Pressure hPa : 340
rack travel mm : 10.75
Tolerance mm : +- 0.05

Pressure hPa : 200
rack travel mm : 9.70
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 117.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.35
Rated speed rpm : 1207
Tolerance 1/min : +- 8

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : +- 0.10
Del. quantity
cm3/1000 strokes : 16.0
Tolerance
cm3/1000 strokes : +- 3.0

Check tolerance
cm3/1000S. : +- 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.05.95
Test oil : ISO 4113
Combination No. : 0 402 646 988
Injection pump Pump designation : PE6P120A320RS7230
EP type number : 0 412 626 899
Governor Governor design. : RQV250...1000PA990K
Cust. part No. : 1250705/4

Customer-spec. information
Customer : DAF
Motor : WS 295 L
Power KW : 295.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holde assembly : 1 688 901 105
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2- 4
Phasing : 0-60-120-180-240
Tolerance : -300
Tolerance : ± 0.30
Check tolerance *NW : ± 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980
Rack travel in mm : 13.95
Tolerance mm : ± 0.05
Del. quantity cm3/1000 strokes : 259.0
Tolerance cm3/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 250

Rack travel in mm : 6.10
Tolerance mm : +- 0.10

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.53
Tolerance mm : +- 0.10

Rated speed rpm : 1038
guide sleeve
travel mm : 9.74
Tolerance mm : +- 0.10

Rated speed rpm : 686
guide sleeve
travel mm : 6.41
Tolerance mm : +- 0.25

Rated speed rpm : 284
guide sleeve
travel mm : 2.27
Tolerance mm : +- 0.25

Rated speed rpm : 334
guide sleeve
travel mm : 3.17
Tolerance mm : +- 0.25

Rated speed rpm : 390

guide sleeve
travel mm : 3.79
Tolerance mm : +- 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1130

Rack travel in mm : 13.50
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 259.0
Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 120.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 12.95
Rated speed rpm : 1032
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : +- 15

rack travel mm : 0.70
Tolerance mm : +- 0.70
Rated speed rpm : 1275

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : ± 20

Rated speed rpm : 150

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 980
rack travel mm : 13.95
Tolerance mm : ± 0.05

Rated speed rpm : 600
rack travel mm : 12.35
Tolerance mm : ± 0.05

Rated speed rpm : 825
rack travel mm : 13.40
Tolerance mm : ± 0.10

Rated speed rpm : 400
rack travel mm : 12.20
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 980
Pressure hPa : 1500
rack travel mm : 13.95
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 980
rack travel mm : 8.90
Tolerance mm : ± 0.10

Rated speed rpm : 980

Pressure hPa : 730
rack travel mm : 12.65
Tolerance mm : ± 0.05

Pressure hPa : 300
rack travel mm : 9.70
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 600

Del. quantity
cm³/1000 strokes : 257.0
Tolerance

cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 600

Del. quantity
cm³/1000 strokes : 165.0
Tolerance

cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.95
Rated speed rpm : 1032
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 250
rack travel mm : 6.10
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113

Combination No. : 0 402 648 980

Injection pump
Pump designation : PE8P120A320LS7839
: -10
EP type number : 0 412 628 855

Governor
Governor design. : RQV300...950PA797
: -39
Governor no. : 0 421 814 115

Cust. part No. : 0250749102

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance L/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 289.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 5.20
Tolerance mm	: +- 0.30
Del. quantity	
cm ³ /1000 strokes	: 19.0
Tolerance	
cm ³ /1000 strokes	: +- 3.0
Check tolerance	
cm ³ /1000S.	: +- 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.29
Tolerance mm	: +- 0.20
<hr/>	
Rated speed rpm	: 1010
guide sleeve	
travel mm	: 8.56
Tolerance mm	: +- 0.15
<hr/>	
Rated speed rpm	: 567
guide sleeve	
travel mm	: 4.66
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 617
guide sleeve	
travel mm	: 5.23
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 780
guide sleeve	
travel mm	: 6.31

Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1092
guide sleeve	
travel mm	: 10.00
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1190
guide sleeve	
travel mm	: 11.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1030
<hr/>	
Rack travel in mm	: 14.20
Tolerance mm	: +- 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 289.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 121.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 14.20
Rated speed rpm	: 995
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1095
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.75
Tolerance mm	: +- 0.75
Rated speed rpm	: 1250

LOW IDLE

control lever
position degree : 82.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

Rated speed rpm : 175

CRT mm min. : > 8.50

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 15.20
Tolerance mm : ± 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 9.95
Tolerance mm : ± 0.20

Pressure hPa : 500
rack travel mm : 11.65
Tolerance mm : ± 0.20

B13

START CUT-OUT

Rated speed rpm : > 190
Rated speed rpm : < 220

Check
speed 1/min : > 170
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000s. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.01.96
Test oil : ISO 4113

Combination No. : 0 402 676 815

Injection pump
Pump designation : PE6P120A320LS7808-3
EP type number : 0 412 626 870

Governor
Governor design. : RSV500...900POA535
: -8
Governor no. : 0 421 833 387

Cust. part No. : 0230747602

Customer-spec. information
Customer : MB-NFZ
Motor : OM 441 LA
Power KW : 236.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : +- 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

B15

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.25
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark
Barrel no. : 6

BASIC SETTING

Rated speed rpm : 880

Rack travel in mm : 14.50
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 500

Rack travel in mm : 4.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 880
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 82.0
tolerance degree : ± 4.0

LOW IDLE

control lever
position degree : 69.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 500
rack travel mm : 4.60
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 530
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 880
rack travel mm : 14.50
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 14.50
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Pressure hPa : 400

rack travel mm : 1.65
Tolerance mm : +- 0.05

Pressure hPa : 600
rack travel mm : 3.30
Tolerance mm : +- 0.10

Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 229.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 146.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 250.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 500
rack travel mm : 4.60
Tolerance mm : +- 0.30
Del. quantity
cm3/1000 strokes : 19.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113

Combination No. : 0 402 678 821

Injection pump
Pump designation : PE8P120A320LS7860-1
EP type number : 0 412 628 871

Governor
Governor design. : RSV350...1050POA535
: -11
Governor no. : 0 421 833 391

Cust. part No. : 0210749302

Customer-spec. information
Customer : MB-NFZ
Motor : OM 402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity
min. L/h : 110
Tolerance L/h : +- 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 2.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.55
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 12.85
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 207.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.00
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1030

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 207.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 99.0
tolerance degree : +- 4.0

LOW IDLE

control lever
position degree : 74.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

TORQUE CONTROL

Rated speed rpm : 1030
rack travel mm : 12.85
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 13.50
Tolerance mm : +- 0.10

Rated speed rpm : 900
rack travel mm : 13.30
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 400
Pressure hPa : 350
rack travel mm : 0.75
Tolerance mm : +- 0.20
Pressure hPa : 650
rack travel mm : 2.10
Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 234.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.09.95
Test oil : ISO 4113
Combination No. : 0 402 696 801
Injection pump Pump designation : PE6P120A720RS7211 : -10
EP type number : 0 412 626 931
Governor Governor design. : RE30
Governor no. : 0 421 890 009

Cust. part No. : 1328037

Customer-spec. information
Customer : SCANIA
Motor : DTC1102,DSC1170

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : +- 0.1
Tolerance L/h : +- 20.0
Test nozzle holder assembly : 1 688 901 104
Opening pressure bar : 251.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 5.05
Prestroke mm : 5.05
Tolerance mm : +- 0.05
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2- : 4
Phasing : 0-60-120-180-240 : -300
Tolerance : +- 0.30
Check tolerance °NW : +- 0.50
Start of delivery mark
Tolerance : +- 0.50
Check tolerance °NW : +- 0.75

Barrel no. : 1

Vibration
damper
(RoBo diaphragm) : 3.1

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with

deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.95
Test oil : ISO 4113

Combination No. : 0 402 696 803

Injection pump
Pump designation : PE6P120A720RS7211
EP type number : 0 412 626 838

Governor
Governor design. : RE30
Governor no. : 0 421 890 019

Cust. part No. : 1370681

Customer-spec. information
Customer : SCANIA
Motor : DSC1122,DTC1102

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Vibration
damper
(RoBo diaphragm) : 3.1

(B) POSITIONER TESTING

Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet

and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.95
Test oil : ISO 4113
Combination No. : 0 402 696 804
Injection pump
Pump designation : PE6P120A720RS7355
EP type number : 0 412 626 933

Governor
Governor design. : RE30
Governor no. : 0 421 890 022

Cust. part No. : 1370672

Customer-spec. information
Customer : SCANIA
Motor : DSC1122,DTC1102

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Vibration
damper
(RoBo diaphragm) : 3.1

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet

and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.95
Test oil : ISO 4113

Combination No. : 0 402 698 802

Injection pump
Pump designation : PE8P120A920/4LS7149
EP type number : 0 412 628 826

Governor
Governor design. : RE30
Governor no. : 0 421 890 007

Cust. part No. : 397567

Customer-spec. information
Customer : SCANIA
Motor : DSC1404

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
 : - 5- 6- 8

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1
Vibration
damper
(RoBo diaphragm) : 3.2

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet

and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.180
Del. quantity
cm³/1000 strokes : 227.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 3.180
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.09.95
Test oil : ISO 4113
Combination No. : 0 402 698 804
Injection pump
Pump designation : PE8P120A720LS7205
: -10
EP type number : 0 412 628 895
Governor
Governor design. : RE30
Governor no. : 0 421 890 007

Cust. part No. : 1328039

Customer-spec. information
Customer : SCANIA
Motor : DSC1409,DSC1416

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

C05

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50

Check
tolerance *NW : +- 0.75
Barrel no. : 1
Vibration
damper
(RoBo diaphragm) : 3.2

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0
Setting point
(P, R and H pump)
Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

C06

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 6.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.09.95
Test oil : ISO 4113
Combination No. : 0 402 698 806
Injection pump Pump designation : PE8P120A720LS7331
EP type number : 0 412 628 896
Governor Governor design. : RE30
Governor no. : 0 421 890 022

Cust. part No. : 1362097

Customer-spec. information
Customer : SCANIA
Motor : DSC1409,DSC1416

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : +- 0.1
Test nozzle holde assembly : 1 688 901 104
Opening pressure bar : 251.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05
Tolerance mm : +- 0.05
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Check tolerance mm : +- 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Tolerance mm : +- 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : +- 0.30
Check tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.50
Check tolerance *NW : +- 0.75

Barrel no. : 1

Vibration
damper
(RoBo diaphragm) : 3.2

(B) POSITIONER TESTING

Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in

stop position.
CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.02.96
Test oil : ISO 4113
Combination No. : 0 402 736 901
Injection pump
Pump designation : PES6P120A720/3LS7251
: -1
EP type number : 0 412 726 926
Governor
Governor design. : RQV300...1000PA962
: -16K
Governor no. : 0 421 815 506
Cust. part No. : 51.11103-7505

Customer-spec. information
Customer : MAN
Motor : D2866 LF09
Power KW : 294.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 2.0
Tolerance bar : ± 0.1
Overflow quantity
min. L/h : 165
Tolerance L/h : ± 20.0
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5

C11

Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 13.00
Tolerance mm : ± 0.50
Firing order : 6- 2- 4- 1- 5-
: 3
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery blocking
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 6

BASIC SETTING

Rated speed rpm : 750
Rack travel in mm : 6.50

Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 107.0

Tolerance
cm³/1000 strokes : \pm 8.0

Check tolerance
cm³/1000S. : \pm 14.0

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 900

Rack travel in mm : 13.40
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 279.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 300

Rack travel in mm : 5.40
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 32.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.65
Tolerance mm : \pm 0.20

Rated speed rpm : 1056
guide sleeve
travel mm : 8.01
Tolerance mm : \pm 0.15

Rated speed rpm : 423
guide sleeve
travel mm : 4.01
Tolerance mm : \pm 0.25

Rated speed rpm : 1480
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1310

Rack travel in mm : 12.10
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 279.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

CONTROL LEVER

control lever
position degree : 285.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 12.10
Rated speed rpm : 1045
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1220
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 245.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.40
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 7.50

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.40
Tolerance mm : + 0.05

Rated speed rpm : 1000
rack travel mm : 13.10
Tolerance mm : + 0.10

Rated speed rpm : 750
rack travel mm : 12.80
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 1200
rack travel mm : 13.40
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 9.20
Tolerance mm : + 0.10

Rated speed rpm : 900

Pressure hPa : 220
rack travel mm : 9.45
Tolerance mm : + 0.05

Pressure hPa : 720
rack travel mm : 11.90
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 240

Check
speed 1/min : > 80
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 259.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1045
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.40
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.02.96
Test oil : ISO 4113

Combination No. : 0 402 736 902

Injection pump
Pump designation : PES6P120A720/3LS7251
: -1
EP type number : 0 412 726 926

Governor
Governor design. : RQV300...1000PA962
: -17K
Governor no. : 0 421 815 507

Cust. part No. : 51.11103-7506

Customer-spec. information
Customer : MAN
Motor : D2866 LF09
Power KW : 294.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 165
Tolerance L/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5

C15

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 6.50

Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 107.0

Tolerance
cm³/1000 strokes : ± 8.0

Check tolerance
cm³/1000S. : ± 14.0

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 900

Rack travel in mm : 13.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 279.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 300

Rack travel in mm : 5.40
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.80
Tolerance mm : ± 0.20

Rated speed rpm : 1059
guide sleeve
travel mm : 8.73
Tolerance mm : ± 0.15

Rated speed rpm : 772
guide sleeve
travel mm : 6.83
Tolerance mm : ± 0.25

Rated speed rpm : 480
guide sleeve
travel mm : 3.79
Tolerance mm : ± 0.25

Rated speed rpm : 1510
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1290

Rack travel in mm : 12.10
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 279.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

CONTROL LEVER

control lever
position degree : 294.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.10
Rated speed rpm : 1045
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1215
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 253.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.40
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 7.20

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.40
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 13.10
Tolerance mm : ± 0.10

Rated speed rpm : 750
rack travel mm : 12.80
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 1200
rack travel mm : 13.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 9.20
Tolerance mm : ± 0.10

Rated speed rpm : 900

Pressure hPa : 220
rack travel mm : 9.45
Tolerance mm : ± 0.05

Pressure hPa : 720
rack travel mm : 11.90
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 240

Check
speed 1/min : > 80
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 259.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0

Aneroid pressure
hPa : -

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1045
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.40
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.07.95
Test oil : ISO 4113

Combination No. : 0 402 746 601

Injection pump
Pump designation : PES6P120A72ORS7389
EP type number : 0 412 726 944

Governor
Governor design. : RQ275/1050PA1021-4
Governor no. : 0 421 801 795

Cust. part No. :

Customer-spec. information
Customer : IVECO-FRANCE
Motor : 8460.41E.711

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 145
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark
Check
tolerance °NW : ± 0.40
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 171.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 4.60
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 171.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0

C20

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

rack travel mm : 9.90
Rated speed rpm : 1103
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1165
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.60
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 356
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 6.10

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 10.95
Tolerance mm : ± 0.05

Rated speed rpm : 550
rack travel mm : 11.00
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 900
rack travel mm : 10.95
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.70
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 220
rack travel mm : 9.30
Tolerance mm : ± 0.20

Pressure hPa : 340
rack travel mm : 10.35
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 195

Check speed 1/min : > 80
Check speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900
Rated speed rpm : 550
Del. quantity cm³/1000 strokes : 182.0
Tolerance cm³/1000 strokes : ± 3.0
Check tolerance cm³/1000S. : ± 6.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 107.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.90

C21

Rated speed rpm : 1103
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 170.0
Tolerance cm³/1000 strokes : ± 15.0
Check tolerance cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : 4.60
Tolerance mm : ± 0.20
Del. quantity cm³/1000 strokes : 23.0
Tolerance cm³/1000 strokes : ± 3.0
Check tolerance cm³/1000S. : ± 6.0
Speed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113

Combination No. : 0 402 746 606

Injection pump
Pump designation : PES6P110A720RS7406
EP type number : 0 412 716 810

Governor
Governor design. : RQV300...1050PA1090
 : -1K
Governor no. : 0 421 815 497

Cust. part No. : 9279607

Customer-spec. information
Customer : LIEBHERR
Motor : D 926 TI-E
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 125
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

C22

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.40
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.86
Tolerance mm : + 0.20

Rated speed rpm : 1117
guide sleeve
travel mm : 10.27
Tolerance mm : + 0.15

Rated speed rpm : 756
guide sleeve
travel mm : 6.17
Tolerance mm : + 0.25

Rated speed rpm : 480
guide sleeve
travel mm : 3.75
Tolerance mm : + 0.25

Rated speed rpm : 1330
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1180

Rack travel in mm : 12.80
Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1600

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 119.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.80
Rated speed rpm : 1090
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.40
Tolerance mm : + 0.10

Rated speed rpm : 250
CRT mm min. : > 7.40
Rated speed rpm : 420

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.80
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 13.65
Tolerance mm : + 0.15

Rated speed rpm : 900
rack travel mm : 13.35
Tolerance mm : + 0.15

Rated speed rpm : 800
rack travel mm : 12.85
Tolerance mm : + 0.10

Rated speed rpm : 600
rack travel mm : 11.80
Tolerance mm : + 0.15

Rated speed rpm : 500
rack travel mm : 10.95
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050
Pressure hPa : 1600
rack travel mm : 13.80
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1050
rack travel mm : 10.55
Tolerance mm : + 0.15

Rated speed rpm : 1050

Pressure hPa : 1020
rack travel mm : 13.00
Tolerance mm : + 0.05

Pressure hPa : 740

rack travel mm : 11.45
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 207.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1600
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 194.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 1090
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.55
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113

Combination No. : 0 402 746 606A

Injection pump
Pump designation : PES6P110A72DRS7406
EP type number : 0 412 716 810

Governor
Governor design. : RQV300...1050PA1090
 : -1K
Governor no. : 0 421 815 497

Cust. part No. : 9279607

Customer-spec. information
Customer : LIEBHERR
Motor : D 926 TI-E
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 125
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.40
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.86
Tolerance mm : +- 0.20

Rated speed rpm : 1102
guide sleeve
travel mm : 10.05
Tolerance mm : +- 0.15

Rated speed rpm : 749
guide sleeve
travel mm : 6.11
Tolerance mm : +- 0.25

Rated speed rpm : 480
guide sleeve
travel mm : 3.75
Tolerance mm : +- 0.25

Rated speed rpm : 1330
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1180

Rack travel in mm : 12.80
Tolerance mm : +- 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1600

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 119.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 12.80
Rated speed rpm : 1090
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.40
Tolerance mm : +- 0.10

Rated speed rpm : 250
 CRT mm min. : > 7.40
 Rated speed rpm : 420

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 13.80
 Tolerance mm : +- 0.05
 Rated speed rpm : 950
 rack travel mm : 13.65
 Tolerance mm : +- 0.15
 Rated speed rpm : 900
 rack travel mm : 13.35
 Tolerance mm : +- 0.15
 Rated speed rpm : 800
 rack travel mm : 12.85
 Tolerance mm : +- 0.10
 Rated speed rpm : 600
 rack travel mm : 11.80
 Tolerance mm : +- 0.15
 Rated speed rpm : 500
 rack travel mm : 10.95
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 1050
 Pressure hPa : 1600
 rack travel mm : 13.80
 Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 1050
 rack travel mm : 10.55
 Tolerance mm : +- 0.15
 Rated speed rpm : 1050
 Pressure hPa : 1020
 rack travel mm : 13.00
 Tolerance mm : +- 0.05
 Pressure hPa : 740

rack travel mm : 11.45
 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1600
 Rated speed rpm : 800
 Del. quantity
 cm³/1000 strokes : 207.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0

Aneroid pressure
 hPa : 1600
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 194.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 184.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.80
 Rated speed rpm : 1090
 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 10.55
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 175.0

Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.40
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.11.94
Test oil : ISO 4113

Combination No. : 0 402 746 997

Injection pump
Pump designation : PES6P120A72ORS7224
 : -2
EP type number : 0 412 726 893

Governor
Governor design. : RQV275...1100PA975
 : -3K
Governor no. : 0 421 815 350

Cust. part No. :

Customer-spec. information
Customer : IVECO-AIFO
Motor : 8361 SRM 40.10

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 140
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark
Check
tolerance °NW : ± 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 218.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 5.50
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 2.00
Tolerance mm : ± 0.20

Rated speed rpm : 1150
guide sleeve
travel mm : 10.45
Tolerance mm : ± 0.15

Rated speed rpm : 764
guide sleeve
travel mm : 6.24
Tolerance mm : ± 0.25

Rated speed rpm : 430
guide sleeve
travel mm : 3.63
Tolerance mm : ± 0.25

Rated speed rpm : 1350

guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1210

Rack travel in mm : 10.70
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 218.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 120.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.70
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 5.50
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 6.70

Rated speed rpm : 335

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : ± 0.05

Rated speed rpm : 900
rack travel mm : 12.75
Tolerance mm : ± 0.10

Rated speed rpm : 500
rack travel mm : 11.80
Tolerance mm : ± 0.10

Rated speed rpm : 700
rack travel mm : 12.50
Tolerance mm : ± 0.10

Rated speed rpm : 350
rack travel mm : 11.40
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 7.70
Tolerance mm : ± 0.20

Rated speed rpm : 900

Pressure hPa : 410
rack travel mm : 8.80
Tolerance mm : ± 0.20

Pressure hPa : 750
rack travel mm : 11.35
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 170
Rated speed rpm : < 220

Check
speed 1/min : > 150
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 228.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 243.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.50
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113

Combination No. : 0 402 796 820

Injection pump
Pump designation : PES6P120A720LS7410
EP type number : 0 412 726 957

Governor
Governor design. : RE30
Governor no. : 0 421 890 038

Cust. part No. : 0260744902

Customer-spec. information
Customer : MTU
Motor : 6-R-183
Power KW : 441.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05

Prestroke mm : 4.05
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.00

Rack travel in mm : 20.50
Tolerance mm : ± 1.00
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 6

(B) POSITIONER TESTING

Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check

D07

tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1150
Uact V : 3.500
Del. quantity
cm³/1000 strokes : 362.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 750
Uact V : 3.500
Del. quantity
cm³/1000 strokes : 428.0
Tolerance
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.02.95
Test oil : ISO 4113
Combination No. : 0 402 846 301
Injection pump
Pump designation : PE6P120A320RS8508
EP type number : 0 412 826 201
Governor
Governor design. : RQV275...1000PA1099K
Governor no. : 0 421 815 983

Cust. part No. : 1287579/4

Customer-spec. information

Customer : DAF
Motor : WS 315 M
Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity min. L/h : 180
Tolerance L/h : ± 10.0

Test nozzle holder assembly : 1 688 901 105

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.35
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 321.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 5.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 275

Rack travel in mm : 5.80
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 13.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 2.14
Tolerance mm : ± 0.15

Rated speed rpm : 1050
guide sleeve
travel mm : 9.89
Tolerance mm : ± 0.20

Rated speed rpm : 692
guide sleeve
travel mm : 6.45
Tolerance mm : ± 0.25

Rated speed rpm : 284
guide sleeve
travel mm : 2.27
Tolerance mm : ± 0.25

Rated speed rpm : 334

guide sleeve
travel mm : 3.08
Tolerance mm : ± 0.25

Rated speed rpm : 400
guide sleeve
travel mm : 3.92
Tolerance mm : ± 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1130

Rack travel in mm : 12.70
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 321.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 5.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 120.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.35
Rated speed rpm : 1037
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : ± 15

rack travel mm : 0.70
Tolerance mm : ± 0.70

Rated speed rpm : 1275

LOW IDLE

control lever
position degree : 76.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 5.80
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : +- 20

Rated speed rpm : 175

CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 980
rack travel mm : 13.35
Tolerance mm : +- 0.05

Rated speed rpm : 750
rack travel mm : 12.75
Tolerance mm : +- 0.05

Rated speed rpm : 600
rack travel mm : 12.05
Tolerance mm : +- 0.10

Rated speed rpm : 500
rack travel mm : 12.00
Tolerance mm : +- 0.10

Rated speed rpm : 400
rack travel mm : 11.95
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 980
Pressure hPa : 1500
rack travel mm : 13.35
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 980
rack travel mm : 8.90
Tolerance mm : +- 0.10

Rated speed rpm : 980

Pressure hPa : 750
rack travel mm : 12.25
Tolerance mm : +- 0.05

Pressure hPa : 420
rack travel mm : 10.00
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 316.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000s. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 13.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 188.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000s. : +- 5.0

BREAKAWAY

Rack travel in mm : 12.35
Rated speed rpm : 1037
Tolerance 1/min : +- 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 13.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.95
Test oil : ISO 4113
Combination No. : 0 402 896 004
Injection pump
Pump designation : PE6P120A72ORS8010
EP type number : 0 412 826 014
Governor
Governor design. : RE30
Governor no. : 0 421 890 009

Cust. part No. : 1328145

Customer-spec. information
Customer : SCANIA
Motor : DSC1127

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : +- 0.1
Tolerance l/h : +- 20.0
Test nozzle holde
assembly : 1 688 901 104
Opening pressure
bar : 251.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 2.85

Prestroke mm : 2.85
Tolerance mm : +- 0.05
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10
Check
tolerance mm : +- 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : +- 0.30
Check
tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.50
Check
tolerance *NW : +- 0.75

Barrel no. : 1

Vibration
damper
(RoBo diaphragm) : 3.1

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet

and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.500
Del. quantity
cm³/1000 strokes : 332.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 900
Uact V : 3.500
Del. quantity
cm³/1000 strokes : 301.0
Tolerance
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.95
Test oil : ISO 4113

Combination No. : 0 402 896 013

Injection pump
Pump designation : PE6P120A72ORS8025
EP type number : 0 412 826 026

Governor
Governor design. : RE30
Governor no. : 0 421 890 019

Cust. part No. : 1361124

Customer-spec. information
Customer : SCANIA
Motor : DSC1124

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 240
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50

Check tolerance *NW : +- 0.75

Barrel no. : 1

Vibration damper (RoBo diaphragm) : 3.1

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min⁻¹: 0

Setting point (P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check tolerance mm : +/- 0.10

Check value (P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.30

Setting point (M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check tolerance mm : +/- 0.10

Check value (M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with deenergised adjusting magnet and control rod in stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference Amplitude to Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.500
Del. quantity cm³/1000 strokes : 340.0
Tolerance cm³/1000 strokes : +- 1.0
Check tolerance cm³/1000S. : +- 4.0
Speed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 900
Uact V : 3.500
Del. quantity cm³/1000 strokes : 309.0
Tolerance cm³/1000 strokes : +- 4.0
Check tolerance cm³/1000S. : +- 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.03.96
Test oil : ISO 4113
Combination No. : 0 403 246 053
Injection pump
Pump designation : PES6MW100/720RS1527
EP type number : 0 413 206 026
Governor
Governor design. : RQV300...1300MW132
: -20
Governor no. : 0 420 083 339
Cust. part No. : 0260749402

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1 680 750 089
Outside diameter : 8.0

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x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 20.00
Tolerance mm : ± 1.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 14.40
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 130.0
Tolerance
cm3/1000 strokes : ± 1.0
Check tolerance
cm3/1000S. : ± 4.0
Spreed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5
 Rated speed rpm : 300
 Rack travel in mm : 4.00
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.01
 Tolerance mm : + 0.20

Rated speed rpm : 1354
 guide sleeve
 travel mm : 6.71
 Tolerance mm : + 0.15

Rated speed rpm : 1090
 guide sleeve
 travel mm : 4.70
 Tolerance mm : + 0.25

Rated speed rpm : 690
 guide sleeve
 travel mm : 2.97
 Tolerance mm : + 0.25

Rated speed rpm : 1683
 guide sleeve
 travel mm : 12.00
 Tolerance mm : + 0.25

Rated speed rpm : 1780
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1480
 Rack travel in mm : 10.00
 Tolerance mm : + 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 130.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

control lever
 position degree : 120.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.40
 Rated speed rpm : 1345
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1495
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.00
 Tolerance mm : + 0.10

Rated speed rpm : 200
CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 14.40
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 14.40
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 600
rack travel mm : 4.30
Tolerance mm : ± 0.10

Pressure hPa : 300
rack travel mm : 1.50
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 200

Check
speed 1/min : > 80
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 43.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000s. : 5.5

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.03.96
Test oil : ISO 4113
Combination No. : 0 403 246 054
Injection pump
Pump designation : PES6MW100/720RS1526
EP type number : 0 413 206 025
Governor
Governor design. : RQV300...1300MW154
Governor no. : 0 420 083 341
Cust. part No. : 0260748702

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

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x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10
Rack travel in mm : 20.00
Tolerance mm : ± 1.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check tolerance *NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 11.90
Tolerance mm : ± 0.05
Del. quantity cm³/1000 strokes : 98.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 3.0
Speed
Tolerance cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0
 Rated speed rpm : 300
 Rack travel in mm : 4.30
 Tolerance mm : ± 0.20
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.01
 Tolerance mm : ± 0.20

Rated speed rpm : 1352
 guide sleeve
 travel mm : 6.10
 Tolerance mm : ± 0.15

Rated speed rpm : 1140
 guide sleeve
 travel mm : 4.84
 Tolerance mm : ± 0.25

Rated speed rpm : 740
 guide sleeve
 travel mm : 3.23
 Tolerance mm : ± 0.25

Rated speed rpm : 1800
 guide sleeve
 travel mm : 12.00
 Tolerance mm : ± 0.25

Rated speed rpm : 1910
 guide sleeve
 travel mm : 13.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1445
 Rack travel in mm : 10.00
 Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 98.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 114.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.90
 Rated speed rpm : 1345
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1500
 Tolerance 1/min : ± 15

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1600

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.30
 Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm min. : > 4.80

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.90
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 11.90
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.90
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 1.30
Tolerance mm : ± 0.10

Pressure hPa : 250
rack travel mm : 0.65
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check speed 1/min : > 80
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000
Rated speed rpm : 750

Del. quantity cm³/1000 strokes : 92.0
Tolerance cm³/1000 strokes : ± 1.5
Check tolerance cm³/1000S. : ± 4.0
Spreed Tolerance cm³/1000 strokes : 5.0
Check tolerance cm³/1000S. : 7.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 61.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 125.0
Tolerance cm³/1000 strokes : ± 5.0
Check tolerance cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.30
Tolerance mm : ± 0.20
Del. quantity cm³/1000 strokes : 12.0
Tolerance cm³/1000 strokes : ± 2.0
Check tolerance cm³/1000S. : ± 4.5
Spreed Tolerance cm³/1000 strokes : 3.5

Check tolerance
cm3/1000s. : 5.5

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113
Combination No. : 0 403 474 003
Injection pump
Pump designation : PES4MW100/720RS1127
EP type number : 0 413 404 103
Governor
Governor design. : RSV350...1300MWOA318
Governor no. : 0 420 085 087
Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM364A
Power KW : 85.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holder assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 3.75
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : +- 0.50
Check tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1280
Rack travel in mm : 12.50
Tolerance mm : +- 0.10
Del. quantity cm3/1000 strokes : 85.0
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. : +- 3.0
Speed
Tolerance cm3/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0
 Rated speed rpm : 350
 Rack travel in mm : 9.30
 Tolerance mm : ± 0.20
 Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : ± 0.35
 governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1280
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 85.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 104.0

tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.40
 Rated speed rpm : 1325
 Tolerance 1/min : ± 5
 rack travel mm : 4.00
 Rated speed rpm : 1405
 Tolerance 1/min : ± 15
 rack travel mm : 1.00
 Tolerance mm : ± 0.70
 Rated speed rpm : 1480

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
 rack travel mm : 9.30
 Tolerance mm : ± 0.05
 rack travel mm : 2.00
 Rated speed rpm : 500
 Tolerance 1/min : ± 30
 Rated speed rpm : 100
 CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1280
 rack travel mm : 12.50
 Tolerance mm : ± 0.10
 Rated speed rpm : 750
 rack travel mm : 13.40
 Tolerance mm : ± 0.10
 Rated speed rpm : 950
 rack travel mm : 13.00
 Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 81.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 85.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1325
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 9.30
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strukes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed

Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113
Combination No. : 0 403 476 059
Injection pump
Pump designation : PES6MW100/72ORS1130
EP type number : 0 413 406 122
Governor
Governor design. : RSV750...1250MWOA325
: -1
Governor no. : 0 420 085 112
Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366 A
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

E01

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 3.75
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1230
Rack travel in mm : 10.95
Tolerance mm : +- 0.05
Del. quantity
cm3/1000 strokes : 78.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000s. : +- 3.0
Speed
Tolerance
cm3/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 750

Rack travel in mm : 5.80

Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance

cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : ± 0.35

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1230

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 78.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance

cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 97.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 1.00

Tolerance mm : ± 0.70

Rated speed rpm : 1350

rack travel mm : 4.00

Rated speed rpm : 1305

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1270

rack travel mm : 9.95

Rated speed rpm : 1300

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1271

rack travel mm : 9.95

Rated speed rpm : 1301

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1272

rack travel mm : 9.95

Rated speed rpm : 1302

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1273

rack travel mm : 9.95

Rated speed rpm : 1303

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1274

rack travel mm : 9.95

Rated speed rpm : 1304

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1275

rack travel mm : 9.95

Rated speed rpm : 1305

Tolerance 1/min : ± 5

rack travel mm : 4.00

LOW IDLE

control lever
position degree : 78.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 750
rack travel mm : 5.80
Tolerance mm : +- 0.15

rack travel mm : 2.00
Rated speed rpm : 775

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1230
rack travel mm : 10.95
Tolerance mm : +- 0.05

Rated speed rpm : 600
rack travel mm : 10.95
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 56.0
Tolerance
cm³/1000 strokes : +- 1.5
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 83.0

Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0

LOW IDLE

Rated speed rpm : 750
rack travel mm : 5.80
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.03.96
Test oil : ISO 4113
Combination No. : 0 403 476 075
Injection pump
Pump designation : PES6MW100/72ORS1130
EP type number : 0 413 406 122
Governor
Governor design. : RSV350...750MW0A336
: -4
Governor no. : 0 420 085 160
Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM366A
Power kW : 84.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

E04

x inside diameter : 2.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 85.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0
 Rated speed rpm : 350
 Rack travel in mm : 6.30
 Tolerance mm : + 0.50
 Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : + 0.35
 governor spring
 pre-tension
 click setting x : 2.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 85.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 78.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 850

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
 rack travel mm : 11.00

Rated speed rpm : 779
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 751
 rack travel mm : 11.00

Rated speed rpm : 780
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 752
 rack travel mm : 11.00

Rated speed rpm : 781
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 753
 rack travel mm : 11.00

Rated speed rpm : 782
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 754
 rack travel mm : 11.00

Rated speed rpm : 783
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 755
 rack travel mm : 11.00

Rated speed rpm : 784
 Tolerance 1/min : + 4
 rack travel mm : 4.00

LOW IDLE

control lever
position degree : 65.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.30
Tolerance mm : +- 0.50

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.05
Tolerance mm : +- 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 95.0
Tolerance
cm3/1000 strokes : +- 5.0
Check tolerance
cm3/1000S. : +- 8.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 6.30
Tolerance mm : +- 0.50
Del. quantity
cm3/1000 strokes : 11.0
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000S. : +- 4.5
Spreed
Tolerance
cm3/1000 strokes : 3.5

E06

Check tolerance
cm3/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.02.96
Test oil : ISO 4113
Combination No. : 9 400 085 319
Injection pump
Pump designation : PES6A95D410RS2772
EP type number : 9 400 084 018
Governor
Governor design. : RQV300...1400AB1066
: -10L
Governor no. : 9 420 080 287
Cust. part No. :

Customer-spec. information

Customer : MBB
Motor : OM 352 A
Power kW : 141.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 006
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

E07

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 3.25
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1400
Rack travel in mm : 9.55
Tolerance mm : +- 0.05
Del. quantity
cm³/1000 strokes : 78.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.05
 Tolerance mm : ± 0.25

Rated speed rpm : 1500
 guide sleeve
 travel mm : 8.55
 Tolerance mm : ± 0.05

Rated speed rpm : 500
 guide sleeve
 travel mm : 2.55
 Tolerance mm : ± 0.25

Rated speed rpm : 750
 guide sleeve
 travel mm : 4.20
 Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500
 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
 Aneroid pressure
 hPa : 700
 Del. quantity
 cm³/1000 strokes : 78.5
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0

E08

Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 62.0
 tolerance degree : ± 4.0

control lever
 position degree : 111.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.50
 Rated speed rpm : 1465
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1550
 Tolerance 1/min : ± 15

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1650

LOW IDLE

control lever
 position degree : 67.0
 tolerance degree : ± 4.0

control lever
 position degree : 19.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 7.00
 Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 485

TORQUE CONTROL

Rated speed rpm : 1400
rack travel mm : 9.55
Tolerance mm : +- 0.05

Rated speed rpm : 800
rack travel mm : 10.05
Tolerance mm : +- 0.05

Rated speed rpm : 1000
rack travel mm : 9.80
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 10.05
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 170
rack travel mm : 0.55
Tolerance mm : +- 0.05

Pressure hPa : 330
rack travel mm : 1.20
Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check speed 1/min : > 80
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 75.5
Tolerance
cm³/1000 strokes : +- 1.5

E09

Check tolerance
cm³/1000S. : +- 4.0

Aneroid pressure
hPa : 700
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 79.0
Tolerance
cm³/1000 strokes : +- 1.5
Check tolerance
cm³/1000S. : +- 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 8.50
Rated speed rpm : 1465
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.00
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 13.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000s. : 5.5

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.02.96
Test oil : ISO 4113
Combination No. : 9 400 085 363
Injection pump
Pump designation : PES6A95D410RS2772
EP type number : 9 400 084 018
Governor
Governor design. : RQV300...1300AB1277L
Governor no. : 9 420 080 355

Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 366 A
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder assembly : 0 681 343 009
Opening pressure bar : 173.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 3.25
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 10.55
Tolerance mm : +- 0.05
Del. quantity cm³/1000 strokes : 91.0
Tolerance cm³/1000 strokes : +- 1.0
Check tolerance cm³/1000S. : +- 3.0
Speed Tolerance cm³/1000 strokes : 3.5
Check tolerance cm³/1000S. : 8.0

Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.05
Tolerance mm : ± 0.25

Rated speed rpm : 1500
guide sleeve
travel mm : 8.55
Tolerance mm : ± 0.05

Rated speed rpm : 500
guide sleeve
travel mm : 2.55
Tolerance mm : ± 0.25

Rated speed rpm : 750
guide sleeve
travel mm : 4.20
Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500
Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 91.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

E12

Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 108.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.50
Rated speed rpm : 1350
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1475
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1650

LOW IDLE

control lever
position degree : 68.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 8.00
Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 10.55
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 11.25
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 11.00
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 11.45
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 500
rack travel mm : 1.20
Tolerance mm : + 0.10

Pressure hPa : 310
rack travel mm : 0.45
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check speed 1/min : > 80
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 800
Rated speed rpm : 800
Del. quantity cm3/1000 strokes : 89.5
Tolerance cm3/1000 strokes : + 2.0
Check tolerance cm3/1000S. : + 4.0

Aneroid pressure hPa : 800
Rated speed rpm : 1000
Del. quantity cm3/1000 strokes : 91.5

Tolerance cm3/1000 strokes : + 2.0
Check tolerance cm3/1000S. : + 4.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 62.0
Tolerance cm3/1000 strokes : + 1.0
Check tolerance cm3/1000S. : + 3.0

BREAKAWAY

Rack travel in mm : 9.50
Rated speed rpm : 1350
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.30
Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 82.5
Tolerance cm3/1000 strokes : + 7.5
Check tolerance cm3/1000S. : + 10.0

LOW IDLE

Del. quantity cm3/1000 strokes : 11.0
Tolerance cm3/1000 strokes : + 2.0
Check tolerance cm3/1000S. : + 4.5
Speed cm3/1000 strokes : 5.5
Check tolerance cm3/1000S. : 9.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.96
Test oil : ISO 4113
Combination No. : 9 400 085 377
Injection pump
Pump designation : PES6A95D41ORS2857
EP type number : 9 400 084 036
Governor
Governor design. : RQV300...1250AB1284L
Governor no. : 9 420 080 372

Cust. part No. :

Customer-spec. information
Customer : DEUTZ-ARGENTINA
Motor : BF 6 L 913C
Power KW : 140.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder assembly : 0 681 343 009
Opening pressure bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 11.25
Tolerance mm : ± 0.05
Del. quantity cm³/1000 strokes : 98.5
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 3.0
Spreed Tolerance cm³/1000 strokes : 3.5
Check tolerance cm³/1000S. : 8.0

Del. quantity
 cm³/1000 strokes : 17.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1250
 guide sleeve
 travel mm : 7.70
 Tolerance mm : ± 0.10

Rated speed rpm : 900
 guide sleeve
 travel mm : 5.35
 Tolerance mm : ± 0.25

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.85
 Tolerance mm : ± 0.25

Rated speed rpm : 500
 guide sleeve
 travel mm : 3.55
 Tolerance mm : ± 0.25

Rated speed rpm : 1400
 guide sleeve
 travel mm : 9.05
 Tolerance mm : ± 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1350
 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
 Aneroid pressure
 hPa : 900

Del. quantity
 cm³/1000 strokes : 98.5
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 120.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.20
 Rated speed rpm : 1295
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1400
 Tolerance 1/min : ± 15

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 66.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.00
 Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 7.00

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1250
 rack travel mm : 11.25

Tolerance mm : +- 0.05
Rated speed rpm : 800
rack travel mm : 11.25
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 11.25
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 670
rack travel mm : 1.60
Tolerance mm : +- 0.10

Pressure hPa : 550
rack travel mm : 0.45
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 104.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 83.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 1295
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.10
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : +- 7.5
Check tolerance
cm³/1000S. : +- 10.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Speed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.96
Test oil : ISO 4113

Combination No. : 0 400 863 008

Injection pump
Pump designation : PES3A90D320/3RS2658
EP type number : 0 410 893 004

Governor
Governor design. : RSV325...1500A2C505
 : -3R
Governor no. : 0 420 233 229

Cust. part No. : 1-7545

Customer-spec. information

Customer : MWM
Motor : D226B-3
Power KW : 49.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 2- 3

Phasing : 0-120-240

Beginning of delivery differende
and maximum rack
travel : 9.00
Difference ° CS : 4.00

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.25
Tolerance mm : + 0.05

Del. quantity
cm3/1000 strokes : 90.0

Tolerance
cm3/1000 strokes : + 0.5

Check tolerance
cm3/1000S. : + 2.5

Spreed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 5.0

Rated speed rpm : 325

Rack travel in mm : 9.80
Tolerance mm : +- 0.10

Del. quantity
cm³/1000 strokes : 49.5

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 5.0

Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 90.0

Tolerance
cm³/1000 strokes : +- 0.5

Check tolerance
cm³/1000S. : +- 2.5

Spreed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 5.0

CONTROL LEVER

control lever
position degree : 93.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.20
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1375

rack travel mm : 4.00
Rated speed rpm : 1225

LOW IDLE

control lever
position degree : 67.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 9.30

Testing:

Rated speed rpm : 325
rack travel mm : 9.80
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 510
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.25
Tolerance mm : +- 0.05

Rated speed rpm : 500
rack travel mm : 11.30
Tolerance mm : +- 0.10

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.90
Tolerance mm : \pm 2.10
Del. quantity
cm³/1000 strokes : 115.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 9.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 49.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000s. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113
Combination No. : 0 402 066 710
Injection pump
Pump designation : PES6P110A120RS3357
EP type number : 0 412 106 754
Governor
Governor design. : RSV400...900P4A633
Governor no. : 0 421 833 541

Cust. part No. : 3931255

Customer-spec. information

Customer : CDC
Motor : 6CTA ELITE
Power KW : 207.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2 417 413 086
Inlet press. bar : 2.0
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

E21

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0
Prestroke mm : 3.60
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50
Start of delivery blocking
°NW after s.o.d. : 7.75
Tolerance : + 0.50
Check
tolerance °NW : + 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850
Rack travel in mm : 13.35
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 216.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 24.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 216.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 102.0

RATED SPEED

rack travel mm : 12.30
Rated speed rpm : 930
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 985
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1100

rack travel mm : 4.00
Rated speed rpm : 995

LOW IDLE

control lever
position degree : 77.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.70

Testing:

Rated speed rpm : 400
rack travel mm : 6.20
Tolerance mm : ± 0.20

rack travel mm : 2.00
Rated speed rpm : 500
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : < 19.00

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 13.35
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 930
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.00
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.03.96
 Test oil : ISO 4113
 Combination No. : 0 402 076 778
 Injection pump
 Pump designation : PES6P120A72ORS3352
 EP type number : 0 412 026 780
 Governor
 Governor design. : RSV400...1100P2A599
 : -1
 Governor no. : 0 421 833 486
 Cust. part No. : RE62642

Customer-spec. information
 Customer : DEERE
 Motor : 6081AF001
 Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
 Test oil inlet
 temp. °C : 40
 Tolerance °C : ± 2.0
 Overflow valve : 1 457 413 010
 Inlet press. bar : 2.0
 Test nozzle holde
 assembly : 1 688 901 101
 Opening pressure
 bar : 208.5
 Tolerance bar : ± 1.5
 Test lines : 1 680 750 015
 Outside diameter : 6.0

E24

x inside diameter : 3.0
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
 Tolerance bar : ± 1.0
 Prestroke mm : 3.60
 Tolerance mm : ± 0.05
 Check
 tolerance mm : ± 0.10
 Rack travel in mm : 10.50
 Tolerance mm : ± 1.50
 Firing order : 1- 5- 3- 6- 2-
 : 4
 Phasing : 0-60-120-180-240
 : -300
 Tolerance : ± 0.30
 Check
 tolerance °NW : ± 0.75
 Start of delivery mark
 °NW after s.o.d. : 8.00
 Tolerance : ± 0.50
 Check
 tolerance °NW : ± 0.75
 Barrel no. : 1
 Beginning of delivery differende
 and maximum rack
 travel : 14.00
 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.45
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 161.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 24.5

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 4.5

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1600
Del. quantity
cm³/1000 strokes : 161.0
Tolerance
cm³/1000 strokes : +- 1.0

E25

Check tolerance
cm³/1000S. : +- 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 97.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.45
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1205
Tolerance 1/min : +- 5

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1215

LOW IDLE

control lever
position degree : 73.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.20

Testing:

Rated speed rpm : 400
rack travel mm : 5.70
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.45
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 12.80
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.80
Tolerance mm : + 0.20

Rated speed rpm : 500
Pressure hPa : 960
rack travel mm : 11.70
Tolerance mm : + 0.20

Pressure hPa : 475
rack travel mm : 9.80
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 167.5
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 71.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 11.45
Rated speed rpm : 1145
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.00
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 24.5
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.03.96
Test oil : ISO 4113
Combination No. : 0 402 076 782
Injection pump
Pump designation : PES6P120A720RS3352
EP type number : 0 412 026 780
Governor
Governor design. : RSV400...1100P2A599
: -3
Governor no. : 0 421 833 497
Cust. part No. : RE63766

Customer-spec. information
Customer : DEERE
Motor : 6Q81AF001
Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 457 413 010
Inlet press. bar : 2.0
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

E27

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75
Start of delivery mark
°NW after s.o.d. : 8.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1
Beginning of delivery differende
and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.45
Tolerance mm : +- 0.05

Del. quantity
cm3/1000 strokes : 161.0

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 3.0

Spread
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

Del. quantity
cm3/1000 strokes : 24.5
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000S. : +- 4.5
Spread
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1600
Del. quantity
cm3/1000 strokes : 161.0
Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 3.0
Spread
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 97.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.45
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1205
Tolerance 1/min : +- 5

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1215

LOW IDLE

control lever
position degree : 73.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.20

Testing:

Rated speed rpm : 400
rack travel mm : 5.70
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.45
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 12.80
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.80
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 960
rack travel mm : 11.70
Tolerance mm : ± 0.20

Pressure hPa : 475
rack travel mm : 9.80
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100

Check speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 167.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 71.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.45
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.00
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 24.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.03.96
Test oil : ISO 4113
Combination No. : 0 402 076 785
Injection pump
Pump designation : PES6P120A720RS3352
EP type number : 0 412 026 780
Governor
Governor design. : RSV400...750P4A611
: -1
Governor no. : 0 421 833 514
Cust. part No. : RE66449

Customer-spec. information
Customer : DEERE
Motor : 6081AF001
Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 457 413 010
Inlet press. bar : 2.0
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1 680 750 015
Outside diameter : 6.0

F02

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75
Start of delivery mark
°NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1
Beginning of delivery differende
and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.90
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 200.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 5.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : + 1.0

F03

Check tolerance
cm³/1000S. : + 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 90.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.90
Rated speed rpm : 760
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 795
Tolerance 1/min : + 5

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 950

rack travel mm : 4.00
Rated speed rpm : 830

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.40

Testing:

Rated speed rpm : 400
rack travel mm : 5.90
Tolerance mm : + 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.90
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 760
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.03.96
Test oil : ISO 4113

Combination No. : 0 402 076 786

Injection pump
Pump designation : PES6P120A720RS3352
EP type number : 0 412 026 780

Governor
Governor design. : RSV400...750P4A606
: -1
Governor no. : 0 421 833 515

Cust. part No. : RE66456

Customer-spec. information
Customer : DEERE
Motor : 6081AF001
Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

F05

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : +- 1.0

Prestroke mm : 3.60
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75

Start of delivery mark

°NW after s.o.d. : 7.00
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende
and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.90
Tolerance mm : +- 0.05

Del. quantity
cm3/1000 strokes : 200.0

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 3.0

Spreed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

Del. quantity
cm3/1000 strokes : 30.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 5.0
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 200.0
Tolerance
cm3/1000 strokes : +- 1.0

F06

Check tolerance
cm3/1000S. : +- 3.0
Spreed
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 90.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 12.90
Rated speed rpm : 760
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 795
Tolerance 1/min : +- 5

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 950

rack travel mm : 4.00
Rated speed rpm : 830

LOW IDLE

control lever
position degree : 73.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.40

Testing:

Rated speed rpm : 400
rack travel mm : 5.90
Tolerance mm : +- 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.90
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 760
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.96
Test oil : ISO 4113
Combination No. : 0 402 736 868
Injection pump
Pump designation : PES6P120A120RS7351
EP type number : 0 412 726 922
Governor
Governor design. : RQV350...1100PA1173K
Governor no. : 0 421 815 439

Cust. part No. : 3928157

Customer-spec. information

Customer : CDC
Motor : 6CTA-A
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 086
Inlet press. bar : 2.0
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

F08

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75
Start of delivery blocking
°NW after s.o.d. : 6.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 15.25
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	:	243.5
<hr/>		
Tolerance cm ³ /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	+ 4.0
<hr/>		
Spread Tolerance cm ³ /1000 strokes	:	5.0
<hr/>		
Check tolerance cm ³ /1000S.	:	9.0
<hr/>		
Del. quantity cm ³ /1000 strokes	:	24.0
Tolerance cm ³ /1000 strokes	:	+ 3.0
Check tolerance cm ³ /1000S.	:	+ 5.0
Spread Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	350
guide sleeve travel mm	:	2.11
Tolerance mm	:	+ 0.20
<hr/>		
Rated speed rpm	:	1159
guide sleeve travel mm	:	7.79
Tolerance mm	:	+ 0.15
<hr/>		
Rated speed rpm	:	726
guide sleeve travel mm	:	4.80
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	420
guide sleeve travel mm	:	3.10
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	1640
guide sleeve travel mm	:	13.50
Tolerance mm	:	+ 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1100
Aneroid pressure hPa	:	1200
Del. quantity cm ³ /1000 strokes	:	243.5
Tolerance cm ³ /1000 strokes	:	+ 1.0
Check tolerance cm ³ /1000S.	:	+ 4.0
Spread Tolerance cm ³ /1000 strokes	:	5.0
Check tolerance cm ³ /1000S.	:	9.0

CONTROL LEVER

control lever position degree	:	119.0
tolerance degree	:	+ 6.0

RATED SPEED

rack travel mm	:	13.60
Rated speed rpm	:	1255
Tolerance 1/min	:	+ 15
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1400
Tolerance 1/min	:	+ 5
<hr/>		
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1500

LOW IDLE

control lever position degree	:	71.0
tolerance degree	:	+ 6.0

Testing:

Rated speed rpm	:	350
rack travel mm	:	6.60
Tolerance mm	:	+ 0.20
<hr/>		
Rated speed rpm	:	275
CRT mm min.	:	> 7.80

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 15.25
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 13.40
Tolerance mm : ± 0.20

Rated speed rpm : 1200
rack travel mm : 14.70
Tolerance mm : ± 0.10

Rated speed rpm : 750
rack travel mm : 13.70
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 9.20
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 715
rack travel mm : 13.50
Tolerance mm : ± 0.20

Pressure hPa : 335
rack travel mm : 10.60
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 211.5
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 13.60
Rated speed rpm : 1255
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 180.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.96
Test oil : ISO 4113

Combination No. : 0 402 736 872

Injection pump
Pump designation : PES6P120A120RS7370
EP type number : 0 412 726 924

Governor
Governor design. : RQV350...1100PA1177K
Governor no. : 0 421 815 443

Cust. part No. : 3928154

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : +- 1.0

Prestroke mm : 4.00
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 5.50
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.85
Tolerance mm : +- 0.05

Del. quantity cm ³ /1000 strokes	: 216.5
<hr/>	
Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
<hr/>	
Del. quantity cm ³ /1000 strokes	: 25.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 5.0
Spreed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure hPa	: 1200
Del. quantity cm ³ /1000 strokes	: 216.5
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 120.0
tolerance degree	: ± 6.0

RATED SPEED

F13

rack travel mm	: 12.40
Rated speed rpm	: 1165
Tolerance 1/min	: ± 15

rack travel mm	: 4.00
Rated speed rpm	: 1300
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1400

LOW IDLE

control lever position degree	: 68.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 6.50
Tolerance mm	: ± 0.20

Rated speed rpm	: 275
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CRT mm min.	: > 8.10
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Rated speed rpm	: 425
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TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 13.85
Tolerance mm	: ± 0.05

Rated speed rpm	: 650
rack travel mm	: 13.30
Tolerance mm	: ± 0.20

Rated speed rpm	: 1100
rack travel mm	: 13.50
Tolerance mm	: ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm	: 1000
Pressure hPa	: 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : 9.40
Tolerance mm : +- 0.20

Rated speed rpm : 1000

Pressure hPa : 765
rack travel mm : 13.30
Tolerance mm : +- 0.20

Pressure hPa : 325
rack travel mm : 10.65
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check speed 1/min : > 80
Check speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200
Rated speed rpm : 650
Del. quantity cm³/1000 strokes : 208.0
Tolerance cm³/1000 strokes : +- 3.0
Check tolerance cm³/1000S. : +- 6.0
Spreed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 1000
Del. quantity cm³/1000 strokes : 96.5
Tolerance cm³/1000 strokes : +- 1.0
Check tolerance cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 12.40

F14

Rated speed rpm : 1165
Tolerance 1/min : +- 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : +- 0.50
Del. quantity cm³/1000 strokes : 200.0
Tolerance cm³/1000 strokes : +- 20.0
Check tolerance cm³/1000S. : +- 25.0

LOW IDLE

Del. quantity cm³/1000 strokes : 25.0
Tolerance cm³/1000 strokes : +- 3.0
Check tolerance cm³/1000S. : +- 5.0
Spreed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.96
Test oil : ISO 4113
Combination No. : 0 402 736 873
Injection pump
Pump designation : PES6P120A120RS7265
EP type number : 0 412 726 924
Governor
Governor design. : RQV350...1100PA1178K
Governor no. : 0 421 815 444

Cust. part No. : 3928152

Customer-spec. information

Customer : CDC
Motor : 6CTA-A
Power KW : 167.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

F15

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 5.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 199.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 2.11
Tolerance mm : ± 0.20

Rated speed rpm : 1159
guide sleeve
travel mm : 7.79
Tolerance mm : ± 0.15

Rated speed rpm : 726
guide sleeve
travel mm : 4.80
Tolerance mm : ± 0.20

Rated speed rpm : 420
guide sleeve
travel mm : 3.10
Tolerance mm : ± 0.25

Rated speed rpm : 1640
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 199.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 115.0
tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 11.90
Rated speed rpm : 1265
Tolerance 1/min : ± 15

rack travel mm : 4.00
Rated speed rpm : 1385
Tolerance 1/min : ± 5

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 6.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.40
Tolerance mm : ± 0.20

Rated speed rpm : 275
CRT mm min. : > 7.90

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.25
Tolerance mm : +- 0.05

Rated speed rpm : 650
rack travel mm : 12.40
Tolerance mm : +- 0.20

Rated speed rpm : 1200
rack travel mm : 13.00
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.70
Tolerance mm : +- 0.20

Rated speed rpm : 1100

Pressure hPa : 520
rack travel mm : 11.80
Tolerance mm : +- 0.20

Pressure hPa : 255
rack travel mm : 9.75
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check speed 1/min : > 80
Check speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200

F17

Rated speed rpm : 650
Del. quantity
cm3/1000 strokes : 188.0

Tolerance
cm3/1000 strokes : +- 3.0

Check tolerance
cm3/1000S. : +- 6.0

Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100

Del. quantity
cm3/1000 strokes : 88.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1265
Tolerance 1/min : +- 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : +- 0.50
Del. quantity
cm3/1000 strokes : 215.0
Tolerance
cm3/1000 strokes : +- 20.0
Check tolerance
cm3/1000S. : +- 25.0

LOW IDLE

Del. quantity
cm3/1000 strokes : 22.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 5.0
Spread
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.96
Test oil : ISO 4113

Combination No. : 0 402 736 905

Injection pump
Pump designation : PES6P120A12ORS7416
EP type number : 0 412 726 959

Governor
Governor design. : RQV400...1250PA1160
 : -3K
Governor no. : 0 421 815 513

Cust. part No. : 3928145

Customer-spec. information
Customer : CDC
Motor : 6BTA-A
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 6.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	:	153.5
<hr/>		
Tolerance cm ³ /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	+ 4.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	8.0
<hr/>		
Check tolerance cm ³ /1000S.	:	12.0
<hr/>		
Del. quantity cm ³ /1000 strokes	:	15.5
Tolerance cm ³ /1000 strokes	:	+ 3.0
Check tolerance cm ³ /1000S.	:	+ 5.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	4.0
Check tolerance cm ³ /1000S.	:	8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	400
guide sleeve travel mm	:	1.44
Tolerance mm	:	+ 0.20
<hr/>		
Rated speed rpm	:	1329
guide sleeve travel mm	:	7.83
Tolerance mm	:	+ 0.15
<hr/>		
Rated speed rpm	:	939
guide sleeve travel mm	:	5.18
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	640
guide sleeve travel mm	:	3.56
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	1690
guide sleeve travel mm	:	11.50
Tolerance mm	:	+ 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1250
Aneroid pressure hPa	:	1200
Del. quantity cm ³ /1000 strokes	:	153.5
Tolerance cm ³ /1000 strokes	:	+ 1.0
Check tolerance cm ³ /1000S.	:	+ 4.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

CONTROL LEVER

control lever position degree	:	117.0
tolerance degree	:	+ 6.0

RATED SPEED

rack travel mm	:	12.30
Rated speed rpm	:	1325
Tolerance 1/min	:	+ 15
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1480
Tolerance 1/min	:	+ 5
<hr/>		
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1550

LOW IDLE

control lever position degree	:	71.0
tolerance degree	:	+ 6.0

Testing:

Rated speed rpm	:	420
rack travel mm	:	6.00
Tolerance mm	:	+ 0.20
<hr/>		
Rated speed rpm	:	400
CRT mm min.	:	> 5.80

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 13.35
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 12.00
Tolerance mm : ± 0.20

Rated speed rpm : 500
rack travel mm : 11.60
Tolerance mm : ± 0.20

Rated speed rpm : 900
rack travel mm : 12.40
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 10.40
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 350
rack travel mm : 12.70
Tolerance mm : ± 0.30

Pressure hPa : 265
rack travel mm : 11.80
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 280

Check speed 1/min : > 80
Check speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1325
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 15.5
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.03.96
Test oil : ISO 4113
Combination No. : 0 402 776 822
Injection pump
Pump designation : PES6P120A72DRS7382
EP type number : 0 412 726 943
Governor
Governor design. : RSV400...900P4A608
Governor no. : 0 421 833 493

Cust. part No. : RE64214

Customer-spec. information
Customer : DEERE
Motor : 6081 AF001
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 079
Inlet press. bar : 2.0
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende
and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 12.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 229.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0

F24

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.85
Rated speed rpm : 920
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 955
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1025

rack travel mm : 4.00
Rated speed rpm : 970

LOW IDLE

control lever
position degree : 79.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.00

Testing:

Rated speed rpm : 400
rack travel mm : 5.50
Tolerance mm : ± 0.10

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 12.85
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

BREAKAWAY

Rack travel in mm : 11.85
Rated speed rpm : 920
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113
Combination No. : 0 402 776 823
Injection pump
Pump designation : PES6P120A720RS7382
EP type number : 0 412 726 943
Governor
Governor design. : RSV400...900P4A609
Governor no. : 0 421 833 494

Cust. part No. : RE64162

Customer-spec. information
Customer : DEERE
Motor : 6081 AF001
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 079
Inlet press. bar : 2.0
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 12.85
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 229.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Speed

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.85
Rated speed rpm : 920
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 955
Tolerance 1/min : + 5

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1025

rack travel mm : 4.00
Rated speed rpm : 970

LOW IDLE

control lever
position degree : 79.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.00

Testing:

Rated speed rpm : 400
rack travel mm : 5.50
Tolerance mm : + 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 12.85
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

BREAKAWAY

Rack travel in mm : 11.85
Rated speed rpm : 920
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000s. : \pm 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113

Combination No. : 0 402 776 832

Injection pump
Pump designation : PES6P120A72ORS7382
EP type number : 0 412 726 943

Governor
Governor design. : RSV400...750P4A609
: -1
Governor no. : 0 421 833 518

Cust. part No. : RE66450

Customer-spec. information
Customer : DEERE
Motor : 6081 AF001
Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 079

Inlet press. bar : 2.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

G01

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : +- 1.0

Prestroke mm : 3.60
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 7.00
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende
and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.90
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 223.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 26.5

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 223.0
Tolerance
cm³/1000 strokes : +- 1.0

G02

Check tolerance
cm³/1000S. : +- 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 91.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.90
Rated speed rpm : 760
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 790
Tolerance 1/min : +- 5

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 900

rack travel mm : 4.00
Rated speed rpm : 820

LOW IDLE

control lever
position degree : 74.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.30

Testing:

Rated speed rpm : 400
rack travel mm : 5.80
Tolerance mm : +- 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.90
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 760
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 26.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113
Combination No. : 0 402 776 833
Injection pump
Pump designation : PES6P120A720RS7382
EP type number : 0 412 726 943
Governor
Governor design. : RSV400...750P4A608
: -1
Governor no. : 0 421 833 519
Cust. part No. : RE66457

Customer-spec. information
Customer : DEERE
Motor : 6081 AF001
Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 079
Inlet press. bar : 2.0
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

G04

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : +- 1.0
Prestroke mm : 3.60
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75
Start of delivery blocking
°NW after s.o.d. : 7.00
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75
Barrel no. : 1
Beginning of delivery differende
and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.90
Tolerance mm : +- 0.05

Del. quantity
cm3/1000 strokes : 223.0

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 4.0

Spreed
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 9.0

Del. quantity
cm3/1000 strokes : 26.5
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 5.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 223.0
Tolerance
cm3/1000 strokes : +- 1.0

G05

Check tolerance
cm3/1000S. : +- 4.0
Spreed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 91.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.90
Rated speed rpm : 760
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 790
Tolerance 1/min : +- 5

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 900

rack travel mm : 4.00
Rated speed rpm : 820

LOW IDLE

control lever
position degree : 74.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.30

Testing:

Rated speed rpm : 400
rack travel mm : 5.80
Tolerance mm : +- 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.90
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 760
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 26.5
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
 Test oil : ISO 4113
 Combination No. : 0 400 074 089
 Injection pump
 Pump designation : PES4M55C32ORS175
 EP type number : 0 410 054 957
 Governor
 Governor design. : RSV350...1500MOC353
 : -10
 Governor no. : 0 420 033 046
 Cust. part No. :

Customer-spec. information
 Customer : MB-NFZ
 Motor : OM601 (2,3L)
 Power KW : 44.0

TEST BENCH REQUIREMENTS

Test oil inlet
 temp. °C : 40
 Tolerance °C : ± 2.0
 Overflow valve : 1 469 990 351
 Inlet press. bar : 1.0
 Test nozzle holde
 assembly : 1 688 901 111
 Opening pressure
 bar : 148.5
 Tolerance bar : ± 1.5
 Test lines : 1 680 750 014
 Outside diameter : 6.0
 x inside diameter : 2.0

G07

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
 Tolerance bar : ± 1.0

Prestroke mm : 2.05
 Tolerance mm : ± 0.05
 Check
 tolerance mm : ± 0.10

Rack travel in mm : 21.00
 Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 15.50
 Tolerance : ± 0.20
 Check
 tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1480

Rack travel in mm : 11.75
 Tolerance mm : ± 0.05

Del. quantity
 cm³/1000 strokes : 37.5

Tolerance
 cm³/1000 strokes : ± 0.5

Check tolerance
 cm³/1000S. : ± 1.5

Speed

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

Rated speed rpm : 350

Del. quantity
cm³/1000 strokes : 7.0

Tolerance
cm³/1000 strokes : ± 1.0

Spread
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : ± 0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1480

Ref. pressure
ALDA / ADA hPa : -

Del. quantity
cm³/1000 strokes : 37.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Spread
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

RATED SPEED

rack travel mm : 1.00
Tolerance mm : ± 0.70

Rated speed rpm : 1750

LOW IDLE

Load pick-up

Rated speed rpm : 100

CRT mm min. : > 20.10

rack travel mm : 5.40
Rated speed rpm : 350

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1480
rack travel mm : 11.75

Tolerance mm : ± 0.05

Rated speed rpm : 1100

rack travel mm : 12.60
Tolerance mm : ± 0.10

Rated speed rpm : 1350

rack travel mm : 12.20
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : -

Rated speed rpm : 1100

Del. quantity
cm³/1000 strokes : 40.7

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 2.0

Spread
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : -

Rated speed rpm : 1350

Spread
Del. quantity
cm³/1000 strokes : 39.5

Tolerance
cm³/1000 strokes : ± 0.8

Check tolerance
cm³/1000S. : ± 1.8

Spread
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : > 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 6.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000s. : +- 2.3
Spreed
Check tolerance
cm³/1000s. : 1.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.96
Test oil : ISO 4113

Combination No. : 0 400 074 878

Injection pump
Pump designation : PES4M55C320RS188
EP type number : 0 410 054 935

Governor
Governor design. : RSF400/2000M82
Governor no. : 0 420 021 283

Cust. part No. :

Customer-spec. information
Customer : DPICO
Motor : OM601-2.3L
Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

G10

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

°NW after s.o.d. : 15.50
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 38.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 400
Rack travel in mm : 4.90
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 6.5
Tolerance
cm³/1000 strokes : +- 0.5
Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : +- 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1100
Del. quantity
cm³/1000 strokes : 38.5
Tolerance
cm³/1000 strokes : +- 0.5
Check tolerance
cm³/1000S. : +- 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0
rack travel mm : 7.60
Rated speed rpm : 2250
rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 2550

SET IDLE CONTROL LEVER POSITION

G11

Rated speed rpm : 1000
CRT mm max. : 1.45

LOW IDLE

control lever
position degree : 12.5
tolerance degree : +- 2.0

Setting point w/out bumper spring
Rated speed rpm : 400
rack travel mm : 4.90

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500
rack travel mm : 3.40
Tolerance mm : +- 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : 13.00
Rated speed rpm : 1000
CRT mm max. : 1.45
rack travel mm : 4.90
Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.15
Tolerance mm : +- 0.05
Rated speed rpm : 2000
rack travel mm : 12.15
Tolerance mm : +- 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 940
rack travel mm : -0.10
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.40
Tolerance mm : ± 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : ± 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2000
Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : 1100

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.60
Tolerance mm : ± 1.50
Del. quantity
cm³/1000 strokes : 60.3
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 4.90
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : ± 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

Grad : > 47.00

Grad : < 44.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 12.5
tolerance degree : ± 2.0

Rated speed rpm : 425

Rack travel in mm : 8.70
Tolerance mm : ± 0.80
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : ± 3.5
Check tolerance
cm³/1000S. : ± 4.5
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 12.5
tolerance degree : ± 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 400

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113

Combination No. : 0 400 074 879

Injection pump
Pump designation : PES4M55C32ORS188
EP type number : 0 410 054 935

Governor
Governor design. : RSF400/2000M80
Governor no. : 0 420 021 281

Cust. part No. :

Customer-spec. information
Customer : DPICO
Motor : OM601-2.3L
Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

G14

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 15.50
Tolerance : ± 0.20
Check
tolerance *NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 38.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 400
Rack travel in mm : 4.90
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 6.5
Tolerance
cm³/1000 strokes : ± 0.5
Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

—————
IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : ± 0.25

—————
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : -
Del. quantity
cm³/1000 strokes : 38.5
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

—————
RATED SPEED

control lever
position degree : 50.0
rack travel mm : 7.40
Rated speed rpm : 2250
rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2550

—————
SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000
CRT mm max. : 1.45

—————
LOW IDLE

control lever
position degree : 14.0
tolerance degree : ± 2.0

Setting point w/out bumper spring
Rated speed rpm : 400
rack travel mm : 4.90

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500
rack travel mm : 3.40
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250

CRT mm min. : 12.30

Rated speed rpm : 1000

CRT mm max. : 1.45

rack travel mm : 4.90
Rated speed rpm : 400

—————
TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.15
Tolerance mm : ± 0.05

Rated speed rpm : 2000
rack travel mm : 12.15
Tolerance mm : ± 0.10

—————
FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : -
Rated speed rpm : 2000
Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 2.0
Spread
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : -

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.60
Tolerance mm : +- 1.50
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 5.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 4.90
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : +- 2.3
Spread
Check tolerance
cm³/1000S. : 1.5

Grad : > 47.00

Grad : < 44.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 14.0
tolerance degree : +- 2.0

Rated speed rpm : 425

Rack travel in mm : 8.70
Tolerance mm : +- 0.80
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : +- 3.5
Check tolerance
cm³/1000S. : +- 4.5
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : +- 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 400

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
 Test oil : ISO 4113
 Combination No. : 0 400 074 882
 Injection pump
 Pump designation : PES4M55C32ORS184
 EP type number : 0 410 054 938
 Governor
 Governor design. : RSF375/1700M77-1
 Governor no. : 0 420 021 275

Cust. part No. :

Customer-spec. information
 Customer : MB-PKW
 Motor : OM601-2.3L
 Power KW : 50.0

TEST BENCH REQUIREMENTS

Test oil inlet
 temp. °C : 40
 Tolerance °C : ± 2.0
 Overflow valve : 1 469 990 351
 Inlet press. bar : 1.0
 Test nozzle holde
 assembly : 1 688 901 111
 Opening pressure
 bar : 148.5
 Tolerance bar : ± 1.5
 Test Lines : 1 680 750 014
 Outside diameter : 6.0
 x inside diameter : 2.0
 x length mm : 600

G17

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
 Tolerance bar : ± 1.0

Prestroke mm : 2.05
 Tolerance mm : ± 0.05
 Check
 tolerance mm : ± 0.10

Rack travel in mm : 21.00
 Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

°NW after s.o.d. : 16.50
 Tolerance : ± 0.20
 Check
 tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1700

Rack travel in mm : 11.50
 Tolerance mm : ± 0.05

Del. quantity
 cm³/1000 strokes : 39.0

Tolerance
 cm³/1000 strokes : ± 0.5

Check tolerance
 cm³/1000S. : ± 1.5

Speed
 Tolerance
 cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 375
Rack travel in mm : 5.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 6.5
Tolerance
cm³/1000 strokes : ± 0.5
Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

—————
IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : ± 0.25

—————
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1700
Ref. pressure
ALDA / ADA hPa : 1100
Del. quantity
cm³/1000 strokes : 39.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

—————
RATED SPEED

control lever
position degree : 50.0
rack travel mm : 6.70
Rated speed rpm : 2000
rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2300

—————
SET IDLE CONTROL LEVER POSITION

G18

Rated speed rpm : 1000
CRT mm max. : 1.45

—————
LOW IDLE

control lever
position degree : 14.0
tolerance degree : ± 2.0

Setting point w/out bumper spring
Rated speed rpm : 375
rack travel mm : 5.00

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450
rack travel mm : 3.60
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : > 10.00

Rated speed rpm : 1000
CRT mm max. : 1.45
rack travel mm : 5.00
Rated speed rpm : 375

—————
TORQUE CONTROL

Rated speed rpm : 1700
rack travel mm : 11.50
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 11.50
Tolerance mm : ± 0.20

—————
ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 940
rack travel mm : -0.10
Tolerance mm : ± 0.10

—————
MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.40
Tolerance mm : +- 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 36.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : 1100

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : > 20.10
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

G19

Rated speed rpm : 375
rack travel mm : 5.00
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : +- 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

Grad : > 47.00

Grad : < 44.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 14.0
tolerance degree : +- 2.0

Rated speed rpm : 425

Rack travel in mm : 7.30
Tolerance mm : +- 0.80
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : +- 3.5
Check tolerance
cm³/1000S. : +- 4.5
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : +- 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113

Combination No. : 0 400 074 884

Injection pump
Pump designation : PES4M55C320RS184
EP type number : 0 410 054 938

Governor
Governor design. : RSF375/1900M77
Governor no. : 0 420 021 273

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM601-2.3L
Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holder assembly : 1 688 901 111

Opening pressure bar : 148.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

G21

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 16.50
Tolerance : ± 0.20
Check tolerance *NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1850

Rack travel in mm : 12.30
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 42.0

Tolerance cm³/1000 strokes : ± 0.5

Check tolerance cm³/1000S. : ± 1.5

Speed Tolerance cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 375
Rack travel in mm : 5.00
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 6.5
Tolerance
cm³/1000 strokes : + 0.5
Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

—————
IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : + 0.25

—————
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1850
Ref. pressure
ALDA / ADA hPa : 1100
Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : + 0.5
Check tolerance
cm³/1000S. : + 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

—————
RATED SPEED

control lever
position degree : 50.0
rack travel mm : 5.60
Rated speed rpm : 2200
rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 2400

—————
SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000
CRT mm max. : 1.45

—————
LOW IDLE

control lever
position degree : 14.0
tolerance degree : + 2.0

Setting point w/out bumper spring
Rated speed rpm : 375
rack travel mm : 5.00

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450
rack travel mm : 3.70
Tolerance mm : + 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : > 10.20

Rated speed rpm : 1000
CRT mm max. : 1.45
rack travel mm : 5.00
Rated speed rpm : 375

—————
TORQUE CONTROL

Rated speed rpm : 1850
rack travel mm : 12.30
Tolerance mm : + 0.05
Rated speed rpm : 1000
rack travel mm : 12.30
Tolerance mm : + 0.10

—————
ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 940
rack travel mm : -0.10
Tolerance mm : + 0.10

—————
MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.40
Tolerance mm : +- 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 39.2
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : 1100

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : > 20.10
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

G23

Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : +- 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

Grad : > 47.00

Grad : < 44.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 14.0
tolerance degree : +- 2.0

Rated speed rpm : 425

Rack travel in mm : 7.30
Tolerance mm : +- 0.80
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : +- 3.5
Check tolerance
cm³/1000S. : +- 4.5
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : +- 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113
Combination No. : 0 400 074 885
Injection pump
Pump designation : PES4M55C320RS167
EP type number : 0 410 054 960
Governor
Governor design. : RSF375/2000M56-14
Governor no. : 0 420 021 271
Cust. part No. :

Customer-spec. information
Customer : DPICO
Motor : OM601-2.3L
Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 469 990 351
Inlet press. bar : 1.0
Test nozzle holde
assembly : 1 688 901 111
Opening pressure
bar : 148.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

G25

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 21.00
Tolerance mm : ± 1.00
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

°NW after s.o.d. : 15.50
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 12.15
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 38.5
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 375
Rack travel in mm : 5.20
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 6.5
Tolerance
cm³/1000 strokes : ± 0.5
Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

—————
IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : ± 0.25

—————
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1100
Del. quantity
cm³/1000 strokes : 38.5
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

—————
RATED SPEED

control lever
position degree : 50.0
rack travel mm : 8.90
Rated speed rpm : 2200
rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2550

—————
SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000
CRT mm max. : 1.45

—————
LOW IDLE

control lever
position degree : 14.0
tolerance degree : ± 2.0

Setting point w/out bumper spring
Rated speed rpm : 375
rack travel mm : 5.20

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450
rack travel mm : 3.90
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : 11.50

Rated speed rpm : 1000
CRT mm max. : 1.45
rack travel mm : 5.20
Rated speed rpm : 375

—————
TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.15
Tolerance mm : ± 0.05

Rated speed rpm : 1800
rack travel mm : 11.90
Tolerance mm : ± 0.10

Rated speed rpm : 2000
rack travel mm : 11.80
Tolerance mm : ± 0.10

—————
ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 940

rack travel mm : -0.10
Tolerance mm : ± 0.10

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.40
Tolerance mm : ± 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : ± 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1800
Del. quantity
cm³/1000 strokes : 40.8
Tolerance
cm³/1000 strokes : ± 0.8
Check tolerance
cm³/1000S. : ± 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2000
Spreed
Del. quantity
cm³/1000 strokes : 41.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : 1100

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.60
Tolerance mm : ± 1.50
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : ± 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

Grad : > 47.00

Grad : < 44.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 14.0
tolerance degree : ± 2.0

Rated speed rpm : 425

Rack travel in mm : 7.30
Tolerance mm : ± 0.80
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.5
Check tolerance
cm³/1000S. : ± 4.5
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : ± 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113

Combination No. : 0 400 074 886

Injection pump
Pump designation : PES4M55C32ORS167
EP type number : 0 410 054 960

Governor
Governor design. : RSF375/2000M55-7
Governor no. : 0 420 021 268

Cust. part No. :

Customer-spec. information
Customer : DPICO
Motor : OM601-2.3L
Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

H01

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 2.05
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 21.00
Tolerance mm : +- 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 15.50
Tolerance : +- 0.20
Check
tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 38.5

Tolerance
cm³/1000 strokes : +- 0.5

Check tolerance
cm³/1000S. : +- 1.5

Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 6.5
Tolerance
cm³/1000 strokes : ± 0.5
Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : ± 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : -
Del. quantity
cm³/1000 strokes : 38.5
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0
rack travel mm : 8.90
Rated speed rpm : 2200
rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2550

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000

H02

CRT mm max. : 1.45

LOW IDLE

control lever
position degree : 14.0
tolerance degree : ± 2.0

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450
rack travel mm : 3.90
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : 11.50

Rated speed rpm : 1000

CRT mm max. : 1.45
rack travel mm : 5.20
Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.15
Tolerance mm : ± 0.05

Rated speed rpm : 1800
rack travel mm : 11.90
Tolerance mm : ± 0.10

Rated speed rpm : 2000
rack travel mm : 11.80
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : -
Rated speed rpm : 1800
Del. quantity
cm³/1000 strokes : 40.8
Tolerance
cm³/1000 strokes : ± 0.8
Check tolerance
cm³/1000S. : ± 1.8

Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : -
Rated speed rpm : 2000
Spreed
Del. quantity
cm³/1000 strokes : 41.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : -

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.60
Tolerance mm : ± 1.50
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 375
rack travel mm : 5.20
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : ± 2.3
Spreed

H03

Check tolerance
cm³/1000S. : 1.5

Grad : > 47.00

Grad : < 44.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 14.0
tolerance degree : ± 2.0

Rated speed rpm : 425

Rack travel in mm : 7.30
Tolerance mm : ± 0.80
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.5
Check tolerance
cm³/1000S. : ± 4.5
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : ± 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113
Combination No. : 0 400 074 889
Injection pump
Pump designation : PES4M55C320RS172
EP type number : 0 410 054 958
Governor
Governor design. : RSF375/2300M75-2
Governor no. : 0 420 021 166

Cust. part No. :

Customer-spec. information

Customer : MB-PKW
Motor : OM601-Mopf II
Power KW : 53.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 469 990 351
Inlet press. bar : 1.0
Test nozzle holde
assembly : 1 688 901 111
Opening pressure
bar : 148.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

H05

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 1.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 21.00
Tolerance mm : ± 1.00
Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 17.00
Tolerance : ± 0.20
Check
tolerance *NW : ± 0.30
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900
Rack travel in mm : 12.35
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 33.5
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

Rated speed rpm : 375

Rack travel in mm : 6.30
Tolerance mm : +- 0.10

Del. quantity
cm³/1000 strokes : 6.5
Tolerance
cm³/1000 strokes : +- 0.5

Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.50
Tolerance mm : +- 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 1100
Del. quantity
cm³/1000 strokes : 33.5
Tolerance
cm³/1000 strokes : +- 0.5

Check tolerance
cm³/1000S. : +- 1.5

Spreed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0

rack travel mm : 7.90
Rated speed rpm : 2500

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 900
CRT mm max. : 1.45

LOW IDLE

control lever
position degree : 14.0
tolerance degree : +- 2.0

Setting point w/out bumper spring
Rated speed rpm : 375
rack travel mm : 6.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450
rack travel mm : 4.70
Tolerance mm : +- 0.10

rack travel mm : 2.50
Rated speed rpm : 670
Tolerance 1/min : +- 50

Load pick-up

Rated speed rpm : 250
CRT mm min. : > 11.00

Rated speed rpm : 900
CRT mm max. : 1.45

rack travel mm : 6.30
Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 12.35
Tolerance mm : +- 0.05

Rated speed rpm : 1400
rack travel mm : 12.05
Tolerance mm : +- 0.10

Rated speed rpm : 2300
rack travel mm : 11.40
Tolerance mm : +- 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 950
rack travel mm : -0.10
Tolerance mm : ± 0.10

MEASUREMENT

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.60
Tolerance mm : ± 0.10

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -2.00
Tolerance mm : ± 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 33.8
Tolerance
cm³/1000 strokes : ± 0.8
Check tolerance
cm³/1000S. : ± 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2300
Spreed
Del. quantity
cm³/1000 strokes : 35.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

H07

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : 1100

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : > 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : ± 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

Grad : > 49.00

Grad : < 46.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 14.0
tolerance degree : ± 2.0

Rated speed rpm : 425

Rack travel in mm : 8.90
Tolerance mm : ± 0.80
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : ± 3.5
Check tolerance
cm³/1000S. : ± 4.5

Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : +- 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

Rated speed rpm : 900
rack travel mm : -1.70
Tolerance mm : +- 0.15

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.96
Test oil : ISO 4113
Combination No. : 0 400 075 920
Injection pump
Pump designation : PES5M55C320RS189
EP type number : 0 410 055 953
Governor
Governor design. : RSF385/2000M83
Governor no. : 0 420 021 284

Cust. part No. :

Customer-spec. information
Customer : DPICO
Motor : OM 602 2,9ltr
Power KW : 70.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holder assembly : 1 688 901 111

Opening pressure bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

H09

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1-2-4-5-3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 15.50
Tolerance : ± 0.20
Check tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 38.0

Tolerance cm³/1000 strokes : ± 0.5

Check tolerance cm³/1000S. : ± 1.5

Speed Tolerance cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 385
Rack travel in mm : 5.90
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 9.5
Tolerance
cm³/1000 strokes : ± 0.5
Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

—————
IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : ± 0.15

—————
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1100
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

—————
RATED SPEED

control lever
position degree : 50.0
rack travel mm : 7.60
Rated speed rpm : 2250
rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2550

—————
SET IDLE CONTROL LEVER POSITION

H10

Rated speed rpm : 1000
CRT mm max. : 1.45

—————
LOW IDLE

control lever
position degree : 12.5
tolerance degree : ± 2.0

Setting point w/out bumper spring
Rated speed rpm : 385
rack travel mm : 5.90

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500
rack travel mm : 4.00
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : 13.00
Rated speed rpm : 1000
CRT mm max. : 1.45
rack travel mm : 5.90
Rated speed rpm : 385

—————
TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.15
Tolerance mm : ± 0.05
Rated speed rpm : 2000
rack travel mm : 12.15
Tolerance mm : ± 0.10

—————
ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 940
rack travel mm : -0.10
Tolerance mm : ± 0.10

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.40
Tolerance mm : +- 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2000
Del. quantity
cm3/1000 strokes : 41.5
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 2.0
Spreed
Tolerance
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : 1100

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.60
Tolerance mm : +- 1.50
Del. quantity
cm3/1000 strokes : 60.3
Tolerance
cm3/1000 strokes : +- 4.0
Check tolerance
cm3/1000S. : +- 5.0
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 6.0

LOW IDLE

Rated speed rpm : 385
rack travel mm : 5.90
Tolerance mm : +- 0.10
Del. quantity
cm3/1000 strokes : 9.5
Check tolerance
cm3/1000S. : +- 2.3
Spreed
Check tolerance
cm3/1000S. : 1.5

Grad : > 47.00

Grad : < 44.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 12.5
tolerance degree : +- 2.0

Rated speed rpm : 400

Rack travel in mm : 8.90
Tolerance mm : +- 0.80
Del. quantity
cm3/1000 strokes : 22.5
Tolerance
cm3/1000 strokes : +- 3.5
Check tolerance
cm3/1000S. : +- 4.5
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 12.5
tolerance degree : +- 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 385

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113
Combination No. : 0 400 075 921
Injection pump
Pump designation : PES5M55C320RS189
EP type number : 0 410 055 953
Governor
Governor design. : RSF385/2000M81
Governor no. : 0 420 021 282

Cust. part No. :

Customer-spec. information
Customer : DPICO
Motor : OM 602 2,9ltr
Power KW : 70.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 469 990 351
Inlet press. bar : 1.0
Test nozzle holder
assembly : 1 688 901 111
Opening pressure
bar : 148.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

H13

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 21.00
Tolerance mm : ± 1.00
Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

Start of delivery blocking

°NW after s.o.d. : 15.50
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 12.15
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000s. : ± 1.5
Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 385
Rack travel in mm : 5.90
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 9.5
Tolerance
cm³/1000 strokes : ± 0.5
Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : ± 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : -
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0
rack travel mm : 7.60
Rated speed rpm : 2250
rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2550

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000
CRT mm max. : 1.45

LOW IDLE

control lever
position degree : 14.0
tolerance degree : ± 2.0

Setting point w/out bumper spring
Rated speed rpm : 385
rack travel mm : 5.90

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500
rack travel mm : 4.00
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : 12.00

Rated speed rpm : 1000
CRT mm max. : 1.45
rack travel mm : 5.90
Rated speed rpm : 385

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.15
Tolerance mm : ± 0.05
Rated speed rpm : 2000
rack travel mm : 12.15
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : -
Rated speed rpm : 2000
Del. quantity
cm³/1000 strokes : 41.5
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : -

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.60
Tolerance mm : +- 1.50
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 385
rack travel mm : 5.90
Del. quantity
cm³/1000 strokes : 9.5
Check tolerance
cm³/1000S. : +- 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

Grad : > 47.00

Grad : < 44.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 14.0
tolerance degree : +- 2.0

Rated speed rpm : 400

Rack travel in mm : 8.90
Tolerance mm : +- 0.80
Del. quantity
cm³/1000 strokes : 22.5
Tolerance
cm³/1000 strokes : +- 3.5
Check tolerance
cm³/1000S. : +- 4.5
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : +- 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 385

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113

Combination No. : 0 400 075 923

Injection pump
Pump designation : PES5M55C32ORS168
EP type number : 0 410 055 978

Governor
Governor design. : RSF350/2000M55-8
Governor no. : 0 420 021 269

Cust. part No. :

Customer-spec. information
Customer : DPICO
Motor : OM602-2.9L
Power KW : 69.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

H16

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 2.05
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 21.00
Tolerance mm : +- 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

Start of delivery blocking

°NW after s.o.d. : 15.50
Tolerance : +- 0.20
Check
tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 38.5

Tolerance
cm³/1000 strokes : +- 0.5

Check tolerance
cm³/1000 strokes : +- 1.5

Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 350
Rack travel in mm : 5.30
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 6.5
Tolerance
cm³/1000 strokes : +- 0.5
Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : +- 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : -
Del. quantity
cm³/1000 strokes : 38.5
Tolerance
cm³/1000 strokes : +- 0.5
Check tolerance
cm³/1000S. : +- 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0
rack travel mm : 8.90
Rated speed rpm : 2200
rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 2550

SET IDLE CONTROL LEVER POSITION

H17

Rated speed rpm : 1000
CRT mm max. : 1.45

LOW IDLE

control lever
position degree : 14.0
tolerance degree : +- 2.0

Setting point w/out bumper spring
Rated speed rpm : 350
rack travel mm : 5.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450
rack travel mm : 4.10
Tolerance mm : +- 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : 10.50
Rated speed rpm : 1000
CRT mm max. : 1.45
rack travel mm : 5.30
Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.15
Tolerance mm : +- 0.05
Rated speed rpm : 1800
rack travel mm : 12.00
Tolerance mm : +- 0.10
Rated speed rpm : 2000
rack travel mm : 11.80
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : -
Rated speed rpm : 1800

Del. quantity
cm³/1000 strokes : 40.8
Tolerance
cm³/1000 strokes : +- 0.8
Check tolerance
cm³/1000S. : +- 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : -
Rated speed rpm : 2000

Spreed
Del. quantity
cm³/1000 strokes : 41.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : -

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.60
Tolerance mm : +- 1.50
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 7.8

H18

Check tolerance
cm³/1000S. : +- 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

Grad : > 47.00

Grad : < 44.50

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 14.0
tolerance degree : +- 2.0

Rated speed rpm : 400

Rack travel in mm : 6.10
Tolerance mm : +- 0.80

Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : +- 3.5
Check tolerance
cm³/1000S. : +- 4.5
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : +- 2.0

control lever
position degree : 50.0

ADJUSTMENT

control lever
position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 350

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.03.96
Test oil : ISO 4113

Combination No. : 0 401 846 859

Injection pump
Pump designation : PE6P120A320RS3196Q
EP type number : 0 411 826 776

Governor
Governor design. : RQV200/1100PA729-1
Governor no. : 0 421 813 470

Cust. part No. : 394505

Customer-spec. information
Customer : SCANIA
Motor : DS9 08

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 125.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 225

Rack travel in mm : 5.20
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 225
guide sleeve
travel mm : 0.65
Tolerance mm : ± 0.20

Rated speed rpm : 1155
guide sleeve
travel mm : 8.50
Tolerance mm : ± 0.15

Rated speed rpm : 719
guide sleeve
travel mm : 5.54
Tolerance mm : ± 0.25

Rated speed rpm : 430
guide sleeve
travel mm : 3.90
Tolerance mm : ± 0.25

Rated speed rpm : 1440

guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1315

Rack travel in mm : 9.00
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 59.0
tolerance degree : ± 4.0

control lever
position degree : 115.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.00
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1250
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 63.0
tolerance degree : ± 4.0

control lever
position degree : 9.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 225
rack travel mm : 5.20
Tolerance mm : ± 0.10

Rated speed rpm : 125
CRT mm min. : > 6.20

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.05
Tolerance mm : ± 0.05

Rated speed rpm : 1100
rack travel mm : 10.05
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

BREAKAWAY

Rack travel in mm : 9.00
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 355.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 225
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96
Test oil : ISO 4113
Combination No. : 0 401 856 700
Injection pump
Pump designation : PE6P110A721RS3101
EP type number : 0 411 816 725
Governor
Governor design. : RQ300/1200PA412
Governor no. : 0 421 801 172

Cust. part No. :

Customer-spec. information
Customer : SNF
Motor : WD615.67
Power KW : 206.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

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x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.35
Check
tolerance °NW : ± 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 12.05
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 163.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes :	4.0
<hr/>	
Check tolerance	
cm3/1000S.	: 7.5
<hr/>	
Rated speed rpm :	300
<hr/>	
Rack travel in mm :	6.00
Tolerance mm :	+ 0.20
Del. quantity	
cm3/1000 strokes :	15.0
Tolerance	
cm3/1000 strokes :	+ 3.0
Check tolerance	
cm3/1000S.	: + 5.5
Spreed	
Tolerance	
cm3/1000 strokes :	4.5
Check tolerance	
cm3/1000S.	: 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	600
<hr/>	
Rack travel in mm :	16.00
Tolerance mm :	+ 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1200
Aneroid pressure	
hPa :	700
Del. quantity	
cm3/1000 strokes :	163.0
Tolerance	
cm3/1000 strokes :	+ 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spreed	
Tolerance	
cm3/1000 strokes :	4.0
Check tolerance	
cm3/1000S.	: 7.5

CONTROL LEVER

control lever	
position degree :	40.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	11.00
Rated speed rpm :	1253
Tolerance 1/min :	+ 8
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1340
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.75
Tolerance mm :	+ 0.75
Rated speed rpm :	1450

LOW IDLE

control lever	
position degree :	14.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	300
rack travel mm :	6.00
Tolerance mm :	+ 0.10
<hr/>	
rack travel mm :	2.00
Rated speed rpm :	425
Tolerance 1/min :	+ 20
<hr/>	
Rated speed rpm :	100
CRT mm min. :	> 7.50

TORQUE CONTROL

Dimension a mm :	0.35
Rated speed rpm :	1200
rack travel mm :	12.05
Tolerance mm :	+ 0.05
<hr/>	
Rated speed rpm :	700
rack travel mm :	12.45
Tolerance mm :	+ 0.05
<hr/>	
Rated speed rpm :	1075
rack travel mm :	12.30
Tolerance mm :	+ 0.15
<hr/>	
Rated speed rpm :	600
rack travel mm :	12.75

Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 12.45
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.20
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 420
rack travel mm : 11.55
Tolerance mm : ± 0.05

Pressure hPa : 330
rack travel mm : 10.35
Tolerance mm : ± 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 167.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1253
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.5
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.96
Test oil : ISO 4113

Combination No. : 0 402 046 874

Injection pump
Pump designation : PES6P120A72ORS3360
EP type number : 0 412 026 785

Governor
Governor design. : RQV300...1100PA1254K
Governor no. : 0 421 815 485

Cust. part No. :

Customer-spec. information
Customer : IVECO-FRANCE
Motor : 8360.46.4107
Power KW : 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity
min. l/h : 105
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.15
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 14.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Check
tolerance °NW : ± 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.05
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 7.80
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance

cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.68
Tolerance mm : +- 0.20

Rated speed rpm : 1156
guide sleeve
travel mm : 9.00
Tolerance mm : +- 0.15

Rated speed rpm : 380
guide sleeve
travel mm : 3.51
Tolerance mm : +- 0.25

Rated speed rpm : 1450

guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1325

Rack travel in mm : 10.00
Tolerance mm : +- 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure

hPa : 1200

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance

cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 116.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 13.00
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1260
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 61.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : ± 0.10

Rated speed rpm : 225
CRT mm min. : > 8.10
Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.05
Tolerance mm : ± 0.05

Rated speed rpm : 850
rack travel mm : 14.20
Tolerance mm : ± 0.15

Rated speed rpm : 700
rack travel mm : 13.55
Tolerance mm : ± 0.15

Rated speed rpm : 500
rack travel mm : 13.30
Tolerance mm : ± 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 850
Pressure hPa : 1200
rack travel mm : 14.20
Tolerance mm : ± 0.15

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 850
rack travel mm : 10.80
Tolerance mm : ± 0.20

Rated speed rpm : 850

Pressure hPa : 640
rack travel mm : 13.10
Tolerance mm : ± 0.20

Pressure hPa : 380
rack travel mm : 11.60
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 200
Rated speed rpm : < 220

Check
speed 1/min : > 180
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 182.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 167.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 90.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.80
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.96
Test oil : ISO 4113

Combination No. : 0 402 046 875

Injection pump
Pump designation : PES6P110A320RS3329Z
EP type number : 0 412 016 744

Governor
Governor design. : RQV325...1250PA1251
Governor no. : 0 421 814 164

Cust. part No. : 1309376/0

Customer-spec. information
Customer : DAF
Motor : NS156M
Power KW : 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 160
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 144.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 325

Rack travel in mm : 5.00
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : +- 2.5
Check tolerance
cm³/1000S. : +- 5.0

Spreed
Tolerance
cm³/1000 strokes : 12.0
Check tolerance
cm³/1000S. : 15.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 1.25
Tolerance mm : +- 0.20

Rated speed rpm : 1298
guide sleeve
travel mm : 10.25
Tolerance mm : +- 0.15

Rated speed rpm : 863
guide sleeve
travel mm : 5.41
Tolerance mm : +- 0.25

Rated speed rpm : 520
guide sleeve
travel mm : 3.02
Tolerance mm : +- 0.25

Rated speed rpm : 1510

guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1370

Rack travel in mm : 10.85
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 123.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.85
Rated speed rpm : 1285
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1360
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 76.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.50
Tolerance mm : ± 0.10

Rated speed rpm : 225

CRT mm min. : > 6.00

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.85
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 11.85
Tolerance mm : ± 0.10

Rated speed rpm : 1250
rack travel mm : 11.85
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 11.85
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 7.00
Tolerance mm : ± 0.20

Rated speed rpm : 600

Pressure hPa : 370
rack travel mm : 10.75
Tolerance mm : ± 0.05

Pressure hPa : 200
rack travel mm : 8.40
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 98.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 10.85
Rated speed rpm : 1285
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 12.0
Check tolerance
cm³/1000S. : 15.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.96
Test oil : ISO 4113

Combination No. : 0 402 046 876

Injection pump
Pump designation : PES6P110A320RS3329Y
EP type number : 0 412 016 756

Governor
Governor design. : RQV325...1250PA1251
Governor no. : 0 421 814 164

Cust. part No. : 1309375/0

Customer-spec. information

Customer : DAF
Motor : NS133M
Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 160
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 146.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 325

Rack travel in mm : 5.00
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0

Spreed
Tolerance
cm³/1000 strokes : 12.0
Check tolerance
cm³/1000S. : 15.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 1.25
Tolerance mm : ± 0.20

Rated speed rpm : 1298
guide sleeve
travel mm : 10.25
Tolerance mm : ± 0.15

Rated speed rpm : 863
guide sleeve
travel mm : 5.41
Tolerance mm : ± 0.25

Rated speed rpm : 520
guide sleeve
travel mm : 3.02
Tolerance mm : ± 0.25

Rated speed rpm : 1510

guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1370

Rack travel in mm : 10.85
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 146.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 123.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.85
Rated speed rpm : 1285
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1360
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 76.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.50
Tolerance mm : ± 0.10

Rated speed rpm : 225

CRT mm min. : > 6.00

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.85
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 11.85
Tolerance mm : ± 0.10

Rated speed rpm : 1250
rack travel mm : 11.85
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 11.85
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 6.40
Tolerance mm : ± 0.20

Rated speed rpm : 600

Pressure hPa : 310
rack travel mm : 10.55
Tolerance mm : ± 0.05

Pressure hPa : 130
rack travel mm : 7.85
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 147.5
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 10.85
Rated speed rpm : 1285
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Spread
Tolerance
cm³/1000 strokes : 12.0
Check tolerance
cm³/1000S. : 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.96
Test oil : ISO 4113

Combination No. : 0 402 646 742

Injection pump
Pump designation : PE6P12QA32OLS7837-2
EP type number : 0 412 626 943

Governor
Governor design. : RQ300/1100PA1272
Governor no. : 0 421 801 804

Cust. part No. : 0270743002

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 228.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

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Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.60

Rack travel in mm : 12.60

Tolerance mm : + 0.05
 Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 193.5

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.00
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.94
 Tolerance mm : + 0.20

Rated speed rpm : 1153
 guide sleeve
 travel mm : 6.37
 Tolerance mm : + 0.15

Rated speed rpm : 1100
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + 0.10

Rated speed rpm : 431
 guide sleeve
 travel mm : 4.71

Tolerance mm : + 0.10
 Rated speed rpm : 570
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + 0.10

Rated speed rpm : 1350
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 650
 Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : 600
 Del. quantity
 cm³/1000 strokes : 193.5
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 94.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.80
 Rated speed rpm : 1140
 Tolerance 1/min : + 8

rack travel mm : 4.00
 Rated speed rpm : 1250
 Tolerance 1/min : + 15

rack travel mm : 0.75
 Tolerance mm : + 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 9.00

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 12.60
Tolerance mm : +- 0.05

Rated speed rpm : 1100
rack travel mm : 13.70
Tolerance mm : +- 0.10

Rated speed rpm : 700
rack travel mm : 13.70
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 200
rack travel mm : -2.00
Tolerance mm : +- 0.05

Pressure hPa : 350
rack travel mm : -0.80
Tolerance mm : +- 0.15

Pressure hPa : 850
rack travel mm : 0.50
Tolerance mm : +- 0.05

START CUT-OUT

J11

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 219.0
Tolerance
cm³/1000 strokes : +- 1.5
Check tolerance
cm³/1000S. : +- 4.5
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 214.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 151.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 1140
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.00
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113
Combination No. : 0 402 678 822
Injection pump
Pump designation : PE8P120A320LS7840-2
EP type number : 0 412 628 873

Governor
Governor design. : RSV350...1050POA535
: -10
Governor no. : 0 421 833 395

Cust. part No. : 0220743002

Customer-spec. information
Customer : MB-NFZ
Motor : OM 442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 12.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.40
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1030
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 99.0
tolerance degree : + 4.0

LOW IDLE

control lever
position degree : 76.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.40
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 415
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100
rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1030
rack travel mm : 12.65
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 13.20
Tolerance mm : + 0.10

Rated speed rpm : 900
rack travel mm : 12.90
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 0.45
Tolerance mm : ± 0.05

Pressure hPa : 700
rack travel mm : 1.70
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 137.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.40
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.02.96
Test oil : ISO 4113
Combination No. : 0 402 946 014
Injection pump
Pump designation : PES6P120A720LS8037
EP type number : 0 412 926 024
Governor
Governor design. : RQV250...1050PA1236K
Governor no. : 0 421 815 970

Cust. part No. : 1370101

Customer-spec. information
Customer : SCANIA
Motor : DSC1202

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 85
Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1 688 901 104

Opening pressure bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 10.00
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery blocking

*NW after s.o.d. : 180.00
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 775

Rack travel in mm : 14.05

Tolerance mm : + 0.05

 Del. quantity
 cm³/1000 strokes : 330.0

 Tolerance
 cm³/1000 strokes : + 1.0

 Check tolerance
 cm³/1000S. : + 10.0

 Spreed
 Tolerance
 cm³/1000 strokes : 8.0

 Check tolerance
 cm³/1000S. : 14.0

 Rated speed rpm : 250

 Rack travel in mm : 4.60
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
 guide sleeve
 travel mm : 1.79
 Tolerance mm : + 0.20

 Rated speed rpm : 1116
 guide sleeve
 travel mm : 10.09
 Tolerance mm : + 0.15

 Rated speed rpm : 644
 guide sleeve
 travel mm : 4.47
 Tolerance mm : + 0.25

 Rated speed rpm : 290
 guide sleeve
 travel mm : 2.62
 Tolerance mm : + 0.25

Rated speed rpm : 1310
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1170

 Rack travel in mm : 12.10
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 775
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 330.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 10.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 14.0

CONTROL LEVER

control lever
 position degree : 63.0
 tolerance degree : + 4.0

 control lever
 position degree : 121.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.10
 Rated speed rpm : 1095
 Tolerance 1/min : + 5

 rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : + 15

 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

control lever
position degree : 17.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.60
Tolerance mm : ± 0.30

Rated speed rpm : 150

CRT mm min. : > 7.30

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 775
rack travel mm : 14.05
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 13.05
Tolerance mm : ± 0.10

Rated speed rpm : 1050
rack travel mm : 13.10
Tolerance mm : ± 0.10

Rated speed rpm : 675
Tolerance mm : ± 0.30

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 775
Pressure hPa : 1500
rack travel mm : 14.05
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 775
rack travel mm : 8.50

Tolerance mm : ± 0.20

Rated speed rpm : 775

Pressure hPa : 300
rack travel mm : 9.80
Tolerance mm : ± 0.15

Pressure hPa : 610
rack travel mm : 11.50
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 170

Check
speed 1/min : > 80
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 319.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 10.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 272.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 8.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 675
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 10.0

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 2.0

Tolerance
cm³/1000 strokes : +- 2.0

Aneroid pressure
hPa : -

Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 192.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.10

Rated speed rpm : 1095

Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 10.70

Tolerance mm : +- 0.50

Del. quantity
cm³/1000 strokes : 210.0

Tolerance
cm³/1000 strokes : +- 20.0

Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 250

rack travel mm : 4.60

Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.02.96
Test oil : ISO 4113

Combination No. : 0 402 946 018

Injection pump
Pump designation : PES6P120A72ORS8041
EP type number : 0 412 926 027

Governor
Governor design. : RQV250...950PA1253
Governor no. : 0 421 814 166

Cust. part No. : 1383215

Customer-spec. information
Customer : SCANIA
Motor : DSC 11.75

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 110
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 261.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 8.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 250

Rack travel in mm : 5.60
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.31
Tolerance mm : +- 0.20

Rated speed rpm : 1006
guide sleeve
travel mm : 7.25
Tolerance mm : +- 0.15

Rated speed rpm : 673
guide sleeve
travel mm : 4.96
Tolerance mm : +- 0.25

Rated speed rpm : 420
guide sleeve
travel mm : 3.37
Tolerance mm : +- 0.25

Rated speed rpm : 1390

guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1235

Rack travel in mm : 10.20
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 261.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 8.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 14.0

CONTROL LEVER

control lever
position degree : 59.0
tolerance degree : +- 4.0

control lever
position degree : 112.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.20
Rated speed rpm : 995
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1130
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 66.0
tolerance degree : ± 4.0

control lever
position degree : 12.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 7.00

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.20
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 11.20
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.20
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 290
rack travel mm : 9.00
Tolerance mm : ± 0.15

Pressure hPa : 540
rack travel mm : 10.40
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 170

Check
speed 1/min : > 80
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.02.96
Test oil : ISO 4113

Combination No. : 0 402 946 019

Injection pump
Pump designation : PES6P120A72ORS8041
EP type number : 0 412 926 027

Governor
Governor design. : RQV250...950PA1253
: -1
Governor no. : 0 421 814 167

Cust. part No. : 1383216

Customer-spec. information
Customer : SCANIA
Motor : DSC 11.74

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 227.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 7.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 250

Rack travel in mm : 5.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.31
Tolerance mm : ± 0.20

Rated speed rpm : 1005
guide sleeve
travel mm : 7.25
Tolerance mm : ± 0.15

Rated speed rpm : 673
guide sleeve
travel mm : 4.96
Tolerance mm : ± 0.25

Rated speed rpm : 420
guide sleeve
travel mm : 3.37
Tolerance mm : ± 0.25

Rated speed rpm : 1390

guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1250

Rack travel in mm : 9.35
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 227.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 7.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 14.0

CONTROL LEVER

control lever
position degree : 58.0
tolerance degree : ± 4.0

control lever
position degree : 111.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.35
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1115
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 66.0
tolerance degree : +- 4.0

control lever
position degree : 12.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm min. : > 7.00

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.35
Tolerance mm : +- 0.05

Rated speed rpm : 950
rack travel mm : 10.35
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.35
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.20
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 260
rack travel mm : 8.80
Tolerance mm : +- 0.15

Pressure hPa : 430
rack travel mm : 9.80
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 170

Check
speed 1/min : > 80
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 9.35
Rated speed rpm : 995
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.02.96
Test oil : ISO 4113
Combination No. : 0 402 946 302
Injection pump
Pump designation : PES6P120A720LS8514
EP type number : 0 412 926 210
Governor
Governor design. : RQV250...950PA1209K
Governor no. : 0 421 815 972
Cust. part No. : 1369074

Customer-spec. information
Customer : SCANIA
Motor : DSC1206

TEST BENCH REQUIREMENTS

Inlet line : EHAB
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 082
Inlet press. bar : 2.5
Test nozzle holde
assembly : 1 688 901 104
Opening pressure
bar : 251.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0

J28

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery blocking
°NW after s.o.d. : 180.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 825
Rack travel in mm : 13.45
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 375.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 11.0

Spreed
 Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
 cm³/1000S. : 14.0

Rated speed rpm : 250

Rack travel in mm : 4.60
 Tolerance mm : + 0.30

Del. quantity
 cm³/1000 strokes : 22.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
 guide sleeve
 travel mm : 1.67
 Tolerance mm : + 0.20

Rated speed rpm : 1017
 guide sleeve
 travel mm : 9.08
 Tolerance mm : + 0.15

Rated speed rpm : 661
 guide sleeve
 travel mm : 5.50
 Tolerance mm : + 0.25

Rated speed rpm : 302
 guide sleeve
 travel mm : 2.44
 Tolerance mm : + 0.25

Rated speed rpm : 352
 guide sleeve
 travel mm : 3.14
 Tolerance mm : + 0.25

Rated speed rpm : 390
 guide sleeve
 travel mm : 3.50
 Tolerance mm : + 0.25

Rated speed rpm : 1310
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1154
 Rack travel in mm : 12.45
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 825
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 375.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 11.0

Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 14.0

CONTROL LEVER

control lever
 position degree : 61.0
 tolerance degree : + 4.0

control lever
 position degree : 115.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.70
 Rated speed rpm : 995
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1110
 Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

control lever
position degree : 18.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.60
Tolerance mm : \pm 0.30

Rated speed rpm : 150

CRT mm min. : $>$ 6.10

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 825
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 12.50
Tolerance mm : \pm 0.10

Rated speed rpm : 950
rack travel mm : 12.75
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 825
Pressure hPa : 1500
rack travel mm : 13.45
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 825
rack travel mm : 7.20

K02

Tolerance mm : \pm 0.20

Rated speed rpm : 825

Pressure hPa : 435
rack travel mm : 8.90
Tolerance mm : \pm 0.15

Pressure hPa : 700
rack travel mm : 10.10
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 170

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 378.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 11.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 331.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 10.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.20
Tolerance mm : +- 0.50

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.60
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.03.96
Test oil : ISO 4113
Combination No. : 0 403 444 146
Injection pump
Pump designation : PES4MW100/72ORS1127
EP type number : 0 413 404 103
Governor
Governor design. : RQV300...1300MW48-1
Governor no. : 0 420 083 084
Cust. part No. : 0190742602

Customer-spec. information
Customer : MB-NFZ
Motor : OM 364 A
Power KW : 85.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 83.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0
 Rated speed rpm : 300
 Rack travel in mm : 7.85
 Tolerance mm : ± 0.10
 Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.37
 Tolerance mm : ± 0.20
 Rated speed rpm : 1354
 guide sleeve
 travel mm : 8.65
 Tolerance mm : ± 0.15
 Rated speed rpm : 885
 guide sleeve
 travel mm : 5.01
 Tolerance mm : ± 0.25
 Rated speed rpm : 490
 guide sleeve
 travel mm : 2.86
 Tolerance mm : ± 0.25
 Rated speed rpm : 1610
 guide sleeve
 travel mm : 11.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1440
 Rack travel in mm : 10.00
 Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 83.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 94.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.10
 Rated speed rpm : 1345
 Tolerance 1/min : ± 5
 rack travel mm : 4.00
 Rated speed rpm : 1445
 Tolerance 1/min : ± 15
 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 66.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 7.85
 Tolerance mm : ± 0.05
 Rated speed rpm : 200
 CRT mm min. : > 9.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.15
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.00
Tolerance mm : ± 0.10

Rated speed rpm : 585
rack travel mm : 12.20
Tolerance mm : ± 0.10

Rated speed rpm : 1000
rack travel mm : 11.20
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 230

Check speed 1/min : > 80
Check speed 1/min : < 250

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 585
Del. quantity
cm³/1000 strokes : 75.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.85
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.96
Test oil : ISO 4113
Combination No. : 0 403 476 145
Injection pump
Pump designation : PES6MW100/32ORS1244
EP type number : 0 413 406 244
Governor
Governor design. : RSV300...1100MW1A399
Governor no. : 0 420 085 289
Cust. part No. :

Customer-spec. information
Customer : SISU
Motor : 634 DWE
Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holder assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

K07

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75
Start of delivery blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1075
Rack travel in mm : 12.10
Tolerance mm : ± 0.05
Del. quantity cm³/1000 strokes : 140.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

Rated speed rpm : 500

Rack travel in mm : 4.30
 Tolerance mm : ± 0.20
 Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5

Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
 Tolerance mm : ± 0.35

governor spring
 pre-tension
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 140.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

control lever
 position degree : 112.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.10
 Rated speed rpm : 1130
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : ± 15

rack travel mm : 1.00
 Tolerance mm : ± 0.70
 Rated speed rpm : 1300

rack travel mm : 4.00
 Rated speed rpm : 1190

LOW IDLE

control lever
 position degree : 84.0
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 500
 rack travel mm : 3.80

Testing:

Rated speed rpm : 500
 rack travel mm : 4.30
 Tolerance mm : ± 0.10

rack travel mm : 2.00
 Rated speed rpm : 560
 Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 1075
 rack travel mm : 12.10
 Tolerance mm : ± 0.05

Rated speed rpm : 600
 rack travel mm : 12.10
 Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.10
Tolerance mm : +- 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.90
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 750
rack travel mm : 11.50
Tolerance mm : +- 0.15

Pressure hPa : 400
rack travel mm : 10.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 146.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 94.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1130
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0

LOW IDLE

Rated speed rpm : 500
rack travel mm : 4.30
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.03.96
Test oil : ISO 4113

Combination No. : 0 400 876 434

Injection pump
Pump designation : PES6A95D41ORS2864
EP type number : 0 410 896 888

Governor
Governor design. : RSV400...1050A8C2263
 : -11L
Governor no. : 0 420 232 635

Cust. part No. : 87 800 972

Customer-spec. information
Customer : NH
Motor : P 396
Power KW : 172.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

K10

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.50
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 132.5

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 3.0

Speed
Tolerance
cm3/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 8.0

 Rated speed rpm : 450

 Rack travel in mm : 5.50
 Tolerance mm : ± 0.10
 Del. quantity
 cm³/1000 strokes : 15.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
 pre-tension
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 132.5
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1078
 rack travel mm : 11.35

 Rated speed rpm : 1153
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85

Tolerance mm : ± 0.55
 Rated speed rpm : 1300

 Rated speed rpm : 1079
 rack travel mm : 11.35

 Rated speed rpm : 1154
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1300

 Rated speed rpm : 1080
 rack travel mm : 11.35

 Rated speed rpm : 1155
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1300

 Rated speed rpm : 1081
 rack travel mm : 11.35

 Rated speed rpm : 1156
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1300

 Rated speed rpm : 1082
 rack travel mm : 11.35

 Rated speed rpm : 1157
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1300

 Rated speed rpm : 1083
 rack travel mm : 11.35

 Rated speed rpm : 1158
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1300

LOW IDLE

Testing:

Rated speed rpm : 450
rack travel mm : 5.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 600
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.50
Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 13.55
Tolerance mm : ± 0.10

Rated speed rpm : 1025
rack travel mm : 11.20
Tolerance mm : ± 0.05

Rated speed rpm : 1025
rack travel mm : 12.35
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.55
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.70
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 650
rack travel mm : 12.50
Tolerance mm : ± 0.05

Pressure hPa : 450
rack travel mm : 11.00
Tolerance mm : ± 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 81.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 8.0
Check tolerance
cm³/1000S. : ± 11.0

LOW IDLE

Rated speed rpm : 450
rack travel mm : 5.50
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spread
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.03.96
Test oil : ISO 4113

Combination No. : 0 402 076 792

Injection pump
Pump designation : PES6P120A72ORS3367
EP type number : 0 412 026 788

Governor
Governor design. : RSV400...1100P2A599
 : -7
Governor no. : 0 421 833 527

Cust. part No. : RE66244

Customer-spec. information
Customer : DEERE
Motor : 6081AF001
Power KW : 168.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

°NW after s.o.d. : 6.75
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende
and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.10
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 151.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 30.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 151.0

Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 95.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.10
Rated speed rpm : 1160
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1210
Tolerance 1/min : +- 5

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1210

LOW IDLE

control lever
position degree : 69.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.10

Testing:

Rated speed rpm : 400
rack travel mm : 5.60
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.10
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.50
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 760
rack travel mm : 12.00
Tolerance mm : +- 0.20

Pressure hPa : 350
rack travel mm : 10.30
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 94.5

Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1160
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 30.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.03.96
Test oil : ISO 4113

Combination No. : 0 402 076 793

Injection pump
Pump designation : PES6P120A720RS3367
EP type number : 0 412 026 788

Governor
Governor design. : RSV400...1100P2A599
 : -8
Governor no. : 0 421 833 528

Cust. part No. : RE66243

Customer-spec. information
Customer : DEERE
Motor : 6081AF001
Power kW : 168.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

°NW after s.o.d. : 6.75
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende
and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.10
Tolerance mm : +- 0.05

Del. quantity
cm3/1000 strokes : 151.0

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 3.0

Spreed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

Del. quantity
cm3/1000 strokes : 30.5
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000S. : +- 4.5
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm3/1000 strokes : 151.0

Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 3.0
Spreed
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 95.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.10
Rated speed rpm : 1160
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1210
Tolerance 1/min : +- 5

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1210

LOW IDLE

control lever
position degree : 69.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.10

Testing:

Rated speed rpm : 400
rack travel mm : 5.60
Tolerance mm : +- 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.10
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.50
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 760
rack travel mm : 12.00
Tolerance mm : ± 0.20

Pressure hPa : 350
rack travel mm : 10.30
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 94.5

Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1160
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 30.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.03.96
Test oil : ISO 4113

Combination No. : 0 402 076 800

Injection pump
Pump designation : PES6P120A72ORS3367
EP type number : 0 412 026 788

Governor
Governor design. : RSV450...1100P2A640
Governor no. : 0 421 833 552

Cust. part No. : RE66248

Customer-spec. information
Customer : DEERE
Motor : 6081HDW04
Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

°NW after s.o.d. : 7.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende
and maximum rack
travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 147.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 28.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1300
Del. quantity
cm³/1000 strokes : 147.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0

K20

Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 96.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.80
Rated speed rpm : 1160
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1220
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1220

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 450
rack travel mm : 4.90

Testing:

Rated speed rpm : 450
rack travel mm : 5.40
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.80
Tolerance mm : ± 0.05

Rated speed rpm : 700

rack travel mm : 13.60
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1300

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.50
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 1000
rack travel mm : 12.90
Tolerance mm : +- 0.20

Pressure hPa : 720
rack travel mm : 11.30
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 193.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 123.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.80

K21

Rated speed rpm : 1160
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 28.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.03.96
Test oil : ISO 4113
Combination No. : 0 402 736 847
Injection pump
Pump designation : PES6P120A12ORS7287
EP type number : 0 412 726 896
Governor
Governor design. : RQV400...1250PA964
: -22K
Governor no. : 0 421 815 366
Cust. part No. : 3921923

Customer-spec. information
Customer : CDC
Motor : 6BTA-A
Power KW : 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 086
Inlet press. bar : 2.0
Test nozzle holde
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

K22

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : +- 1.0
Prestroke mm : 3.60
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75
Start of delivery blocking
°NW after s.o.d. : 6.00
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 14.35
Tolerance mm : +- 0.05

Del. quantity
cm3/1000 strokes : 177.5

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 4.0

Spread
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 12.0

Del. quantity
cm3/1000 strokes : 15.0

Tolerance
cm3/1000 strokes : +- 3.0

Check tolerance
cm3/1000S. : +- 5.0

Spread
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure
hPa : 1200

Del. quantity
cm3/1000 strokes : 177.5

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 4.0

Spread
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 120.0

tolerance degree : +- 6.0

RATED SPEED

rack travel mm : 13.10

Rated speed rpm : 1315

Tolerance 1/min : +- 15

rack travel mm : 4.00

Rated speed rpm : 1480

Tolerance 1/min : +- 5

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 74.0

tolerance degree : +- 6.0

Testing:

Rated speed rpm : 420

rack travel mm : 5.80

Tolerance mm : +- 0.20

Rated speed rpm : 300

CRT mm min. : > 8.80

Rated speed rpm : 420

TORQUE CONTROL

Rated speed rpm : 1150

rack travel mm : 14.35

Tolerance mm : +- 0.05

Rated speed rpm : 800

rack travel mm : 12.60

Tolerance mm : +- 0.20

Rated speed rpm : 1250

rack travel mm : 14.20

Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150

Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 10.40
Tolerance mm : ± 0.20

Rated speed rpm : 1150

Pressure hPa : 685
rack travel mm : 13.30
Tolerance mm : ± 0.30

Pressure hPa : 425
rack travel mm : 11.50
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 315

Check speed 1/min : > 80
Check speed 1/min : < 325

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200
Rated speed rpm : 800
Del. quantity cm³/1000 strokes : 149.5
Tolerance cm³/1000 strokes : ± 3.0
Check tolerance cm³/1000S. : ± 6.0
Spreed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 1150
Del. quantity cm³/1000 strokes : 96.5
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 13.10

K24

Rated speed rpm : 1315
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : ± 0.50
Del. quantity cm³/1000 strokes : 155.0
Tolerance cm³/1000 strokes : ± 20.0
Check tolerance cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity cm³/1000 strokes : 15.0
Tolerance cm³/1000 strokes : ± 3.0
Check tolerance cm³/1000S. : ± 5.0
Spreed Tolerance cm³/1000 strokes : 4.0
Check tolerance cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.03.96
Test oil : ISO 4113

Combination No. : 0 402 736 848

Injection pump
Pump designation : PES6P120A12ORS7314
EP type number : 0 412 726 901

Governor
Governor design. : RQV400...1250PA964
 : -23K
Governor no. : 0 421 815 374

Cust. part No. : 3921922

Customer-spec. information
Customer : CDC
Motor : 6BTA-A
Power KW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 12.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 5.75
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 169.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 169.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : ± 6.0

RATED SPEED

K26

rack travel mm : 13.00
Rated speed rpm : 1310
Tolerance 1/min : ± 15

rack travel mm : 4.00
Rated speed rpm : 1475
Tolerance 1/min : ± 5

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 6.0

Testing:

Rated speed rpm : 420
rack travel mm : 6.10
Tolerance mm : ± 0.20

Rated speed rpm : 300

CRT mm min. : > 8.90

Rated speed rpm : 420

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.35
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 12.90
Tolerance mm : ± 0.20

Rated speed rpm : 1250
rack travel mm : 14.10
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 11.50
Tolerance mm : +- 0.20

Rated speed rpm : 1150

Pressure hPa : 500
rack travel mm : 13.50
Tolerance mm : +- 0.30

Pressure hPa : 375
rack travel mm : 12.30
Tolerance mm : +- 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 315

Check speed 1/min : > 80
Check speed 1/min : < 325

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200
Rated speed rpm : 800
Del. quantity cm³/1000 strokes : 141.0
Tolerance cm³/1000 strokes : +- 3.0
Check tolerance cm³/1000S. : +- 6.0
Spreed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 1150
Del. quantity cm³/1000 strokes : 112.5
Tolerance cm³/1000 strokes : +- 2.0
Check tolerance cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.00

K27

Rated speed rpm : 1310
Tolerance 1/min : +- 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.00
Tolerance mm : +- 0.50
Del. quantity cm³/1000 strokes : 155.0
Tolerance cm³/1000 strokes : +- 20.0
Check tolerance cm³/1000S. : +- 25.0

LOW IDLE

Del. quantity cm³/1000 strokes : 13.0
Tolerance cm³/1000 strokes : +- 3.0
Check tolerance cm³/1000S. : +- 5.0
Spreed Tolerance cm³/1000 strokes : 4.0
Check tolerance cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.03.96
Test oil : ISO 4113

Combination No. : 0 402 736 905

Injection pump
Pump designation : PES6P120A120RS7416
EP type number : 0 412 726 959

Governor
Governor design. : RQV400...1250PA1060
 : -3K
Governor no. : 0 421 815 513

Cust. part No. : 3928145

Customer-spec. information
Customer : CDC
Motor : 6BTA-A
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 6.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	:	153.5
<hr/>		
Tolerance cm ³ /1000 strokes	:	± 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	± 4.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	8.0
<hr/>		
Check tolerance cm ³ /1000S.	:	12.0
<hr/>		
Del. quantity cm ³ /1000 strokes	:	15.5
Tolerance cm ³ /1000 strokes	:	± 3.0
Check tolerance cm ³ /1000S.	:	± 5.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	4.0
Check tolerance cm ³ /1000S.	:	8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	400
guide sleeve travel mm	:	1.44
Tolerance mm	:	± 0.20
<hr/>		
Rated speed rpm	:	1329
guide sleeve travel mm	:	7.83
Tolerance mm	:	± 0.15
<hr/>		
Rated speed rpm	:	939
guide sleeve travel mm	:	5.18
Tolerance mm	:	± 0.25
<hr/>		
Rated speed rpm	:	640
guide sleeve travel mm	:	3.56
Tolerance mm	:	± 0.25
<hr/>		
Rated speed rpm	:	1690
guide sleeve travel mm	:	11.50
Tolerance mm	:	± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1250
Aneroid pressure hPa	:	1200
Del. quantity cm ³ /1000 strokes	:	153.5
Tolerance cm ³ /1000 strokes	:	± 1.0
Check tolerance cm ³ /1000S.	:	± 4.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

CONTROL LEVER

control lever position degree	:	117.0
tolerance degree	:	± 4.0

RATED SPEED

rack travel mm	:	12.30
Rated speed rpm	:	1325
Tolerance 1/min	:	± 15
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1475
Tolerance 1/min	:	± 15
<hr/>		
rack travel mm	:	0.50
Tolerance mm	:	± 0.50
Rated speed rpm	:	1550

LOW IDLE

control lever position degree	:	71.0
tolerance degree	:	± 4.0

Testing:

Rated speed rpm	:	420
rack travel mm	:	6.00
Tolerance mm	:	± 0.20
<hr/>		
Rated speed rpm	:	400
CRT mm min.	:	> 5.80

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 13.35
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 12.00
Tolerance mm : ± 0.20

Rated speed rpm : 500
rack travel mm : 11.60
Tolerance mm : ± 0.20

Rated speed rpm : 900
rack travel mm : 12.40
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 10.40
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 350
rack travel mm : 12.70
Tolerance mm : ± 0.30

Pressure hPa : 265
rack travel mm : 11.80
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 280

Check
speed 1/min : > 80
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1325
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 15.5
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.03.96
Test oil : ISO 4113
Combination No. : 9 400 030 736
Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215
Governor
Governor design. :
Governor no. : 9 420 034 715

Cust. part No. : 3929769

Customer-spec. information

Customer : CDC
Motor : 6BT
Power KW : 88.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holder assembly : 1 688 901 101

Opening pressure bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

L04

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50
Tolerance : +- 0.50
Check tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 9.35
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 75.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 18.5

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 75.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 102.5
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.30
Rated speed rpm : 1260
Tolerance 1/min : ± 5

rack travel mm : 4.30
Rated speed rpm : 1315
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1400

rack travel mm : 4.30
Rated speed rpm : 1325

LOW IDLE

control lever
position degree : 88.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 425
rack travel mm : 4.60

Testing:

Rated speed rpm : 425
rack travel mm : 5.10
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 9.35
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 8.30
Rated speed rpm : 1260
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 120.5
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 18.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.03.96
Test oil : ISO 4113
Combination No. : 0 402 678 830
Injection pump
Pump designation : PE8P12CA520/5RS7386
EP type number : 0 412 628 910
Governor
Governor design. : RSUV325...1150POA365
Governor no. : 0 421 829 113

Cust. part No. : 12277649KY0120-17

Customer-spec. information
Customer : MWM
Motor : TBD 616 V16
Power KW : 864.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : +- 0.1
Test nozzle holde
assembly : 1 688 901 019
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

L07

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 4.65
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10
Rack travel in mm : 13.00
Tolerance mm : +- 0.10
Firing order : 1- 2- 7- 8- 3- 4-
: 5- 6
Phasing : 0-30-45-75-90-120
: -315-345
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 12.60
Tolerance mm : +- 0.05
Del. quantity
cm3/1000 strokes : 262.0
Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.40
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 38.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 262.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

rack travel mm : 11.60

Rated speed rpm : 1193

Tolerance 1/min : ± 5

rack travel mm : 0.85

Tolerance mm : ± 0.55

Rated speed rpm : 1380

rack travel mm : 4.00
Rated speed rpm : 1285

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 5.90

Testing:

Rated speed rpm : 300
rack travel mm : 6.40
Tolerance mm : ± 0.10

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 12.60
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 12.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1800
rack travel mm : 12.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 8.50
Tolerance mm : ± 0.20

Rated speed rpm : 600

Pressure hPa : 1600
rack travel mm : 9.60
Tolerance mm : ± 0.20

Pressure hPa : -
rack travel mm : 12.45
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 261.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 131.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1193
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : > 19.50

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.40
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 38.0

Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.03.96
Test oil : ISO 4113

Combination No. : 0 402 746 650

Injection pump
Pump designation : PES6P120A32ORS7344
EP type number : 0 412 726 914

Governor
Governor design. : RQ275/1050PA999-6
Governor no. : 0 421 801 785

Cust. part No. : CCEP 5151A 66-230

Customer-spec. information
Customer : RVI
Motor : MIDR 062045 M41
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity min. l/h : 145
Tolerance l/h : ± 10.0

Test nozzle holde assembly : 1 688 901 105

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.50
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

°NW after s.o.d. : -0.15
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav. mm : 21.00
and maximum rack travel : 11.00
Difference ° CS : 2.25

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 11.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 288.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -7.00
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 37.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 5.0

Spreed
Tolerance

cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 0.80
Tolerance mm : ± 0.10

Rated speed rpm : 1132
guide sleeve
travel mm : 6.37
Tolerance mm : ± 0.10

Rated speed rpm : 1050

guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 416
guide sleeve
travel mm : 3.44
Tolerance mm : ± 0.10

Rated speed rpm : 560
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1350
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure

hPa : 1000

Del. quantity
cm³/1000 strokes : 288.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance

cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 274.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : -1.00
Rated speed rpm : 1135
Tolerance 1/min : ± 5

rack travel mm : -7.60

Rated speed rpm : 1240
Tolerance 1/min : + 15

rack travel mm : -11.10
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 251.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -7.00
Tolerance mm : + 0.10

rack travel mm : -9.50
Rated speed rpm : 365
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : < -5.80

TORQUE CONTROL

Rated speed rpm : 600

Rated speed rpm : 1050
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -3.65
Tolerance mm : + 0.30

Rated speed rpm : 500

Pressure hPa : 560
rack travel mm : -1.25
Tolerance mm : + 0.15

L12

Pressure hPa : 320
rack travel mm : -2.75
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 225

Check
speed 1/min : > 80
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 281.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1135
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -7.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 37.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.03.96
Test oil : ISO 4113
Combination No. : 0 403 246 046
Injection pump
Pump designation : PES6MW100/720RS1522
EP type number : 0 413 206 023
Governor
Governor design. : RQV300...1300MW148
: -3
Governor no. : 0 420 083 324
Cust. part No. : 0250744702

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 4.55
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10
Rack travel in mm : 21.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 14.50
Tolerance mm : +- 0.05
Del. quantity
cm3/1000 strokes : 133.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0
Spreed
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 8.0
 Rated speed rpm : 300
 Rack travel in mm : 4.50
 Tolerance mm : + 0.20
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 4.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.92
 Tolerance mm : + 0.25

Rated speed rpm : 1355
 guide sleeve
 travel mm : 9.33
 Tolerance mm : + 0.25

Rated speed rpm : 1078
 guide sleeve
 travel mm : 7.06
 Tolerance mm : + 0.25

Rated speed rpm : 514
 guide sleeve
 travel mm : 2.14
 Tolerance mm : + 0.25

Rated speed rpm : 564
 guide sleeve
 travel mm : 2.60
 Tolerance mm : + 0.25

Rated speed rpm : 740
 guide sleeve
 travel mm : 3.93
 Tolerance mm : + 0.25

Rated speed rpm : 1720
 guide sleeve
 travel mm : 13.50

Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500
 Rack travel in mm : 10.00
 Tolerance mm : + 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 133.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 120.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.50
 Rated speed rpm : 1345
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1495
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1600

LOW IDLE

control lever
 position degree : 75.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm min. : > 5.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 14.50
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 14.50
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.50
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 700
rack travel mm : 4.80
Tolerance mm : ± 0.10

Pressure hPa : 300
rack travel mm : 1.70
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 200

Check
speed 1/min : > 80
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 128.0

Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 46.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.03.96
Test oil : ISO 4113
Combination No. : 0 403 466 175
Injection pump
Pump designation : PES6MW100/12ORS1240
EP type number : 0 413 406 239
Governor
Governor design. : RSV400...950MW2A395
Governor no. : 0 420 085 283
Cust. part No. : 3930113

Customer-spec. information
Customer : CDC
Motor : 6 CT-830
Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holde assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 3.35
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check tolerance °NW : +- 0.75
Start of delivery blocking
°NW after s.o.d. : 8.00
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 950
Rack travel in mm : 12.40
Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 146.0
Tolerance cm3/1000 strokes : +- 1.0

<hr/>	
Check tolerance	
cm3/1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm3/1000S.	: 7.5
<hr/>	
Rated speed rpm	: 400
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: + 0.30
Del. quantity	
cm3/1000 strokes	: 20.0
Tolerance	
cm3/1000 strokes	: + 2.0
Check tolerance	
cm3/1000S.	: + 4.5
Spreed	
Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/1000S.	: 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.65
Tolerance mm	: + 0.35
<hr/>	
governor spring	
pre-tension	
click setting x	: 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 950
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm3/1000 strokes	: 146.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 4.0

Check tolerance	
cm3/1000S.	: 7.5

CONTROL LEVER

control lever	
position degree	: 93.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 11.40
Rated speed rpm	: 995
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1040
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1200
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1055

LOW IDLE

control lever	
position degree	: 68.0
tolerance degree	: + 4.0

Setting point w/out bumper spring

Rated speed rpm	: 400
rack travel mm	: 5.10

Testing:

Rated speed rpm	: 400
rack travel mm	: 5.60
Tolerance mm	: + 0.30
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 480
Tolerance 1/min	: + 30

TORQUE CONTROL

Rated speed rpm	: 950
rack travel mm	: 12.40
Tolerance mm	: + 0.05
<hr/>	
Rated speed rpm	: 750

rack travel mm : 12.40
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 12.40
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.00
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 750
rack travel mm : 11.90
Tolerance mm : ± 0.15

Pressure hPa : 600
rack travel mm : 11.30
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 13.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 5.60
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.03.96
Test oil : ISO 4113
Combination No. : 9 400 085 385
Injection pump
Pump designation : PES6A95D410RS2886
EP type number : 9 400 084 039
Governor
Governor design. : RQV300...1300AB1306L
Governor no. : 9 420 080 324

Cust. part No. : 0260745502

Customer-spec. information
Customer : MBB
Motor : OM 366 A
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder assembly : 0 681 343 009
Opening pressure bar : 173.5
Tolerance bar : + 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 3.00
Tolerance mm : + 0.05
Check tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 10.65
Tolerance mm : + 0.05
Del. quantity cm3/1000 strokes : 81.0
Tolerance cm3/1000 strokes : + 1.0
Check tolerance cm3/1000S. : + 3.0
Speed Tolerance cm3/1000 strokes : 3.5
Check tolerance cm3/1000S. : 8.0

Del. quantity
 cm³/1000 strokes : 10.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.05
 Tolerance mm : ± 0.25

 Rated speed rpm : 1500
 guide sleeve
 travel mm : 8.55
 Tolerance mm : ± 0.05

 Rated speed rpm : 500
 guide sleeve
 travel mm : 2.55
 Tolerance mm : ± 0.25

 Rated speed rpm : 750
 guide sleeve
 travel mm : 4.20
 Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 900
 Del. quantity
 cm³/1000 strokes : 81.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0

Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 59.0
 tolerance degree : ± 4.0

 control lever
 position degree : 108.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.60
 Rated speed rpm : 1355
 Tolerance 1/min : ± 5

 rack travel mm : 4.00
 Rated speed rpm : 1480
 Tolerance 1/min : ± 15

 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1600

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : ± 4.0

 control lever
 position degree : 22.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 8.10
 Tolerance mm : ± 0.10

 Rated speed rpm : 100

 CRT mm min. : > 9.30

 Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 10.65
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 11.55
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 11.35
Tolerance mm : ± 0.05

Rated speed rpm : 1030
rack travel mm : 10.85
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 11.55
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 250
rack travel mm : 0.50
Tolerance mm : ± 0.10

Pressure hPa : 390
rack travel mm : 1.35
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 250

Check
speed 1/min : > 80
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 79.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 78.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 50.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 9.60
Rated speed rpm : 1355
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.80
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 78.0
Tolerance
cm³/1000 strokes : ± 7.5
Check tolerance
cm³/1000S. : ± 10.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 10.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5

Speed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000s. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.96
Test oil : ISO 4113
Combination No. : 9 400 085 388
Injection pump
Pump designation : PES6A95D410RS2886
EP type number : 9 400 084 039
Governor
Governor design. : RQV300...1300AB1306L
Governor no. : 9 420 080 384
Cust. part No. : 0260746702

Customer-spec. information
Customer : MBB
Motor : OM 366A EURO I
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 81.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Del. quantity
 cm³/1000 strokes : 10.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.05
 Tolerance mm : ± 0.25

Rated speed rpm : 1500
 guide sleeve
 travel mm : 8.55
 Tolerance mm : ± 0.05

Rated speed rpm : 500
 guide sleeve
 travel mm : 2.55
 Tolerance mm : ± 0.25

Rated speed rpm : 750
 guide sleeve
 travel mm : 4.20
 Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500
 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 900
 Del. quantity
 cm³/1000 strokes : 81.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0

Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 59.0
 tolerance degree : ± 4.0

control lever
 position degree : 108.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.60
 Rated speed rpm : 1355
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1480
 Tolerance 1/min : ± 15

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1600

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : ± 4.0

control lever
 position degree : 22.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 8.10
 Tolerance mm : ± 0.10

Rated speed rpm : 100
 CRT mm min. : > 9.30

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 10.65
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 11.55
Tolerance mm : +- 0.05

Rated speed rpm : 800
rack travel mm : 11.35
Tolerance mm : +- 0.05

Rated speed rpm : 1030
rack travel mm : 10.85
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 11.55
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 250
rack travel mm : 0.50
Tolerance mm : +- 0.10

Pressure hPa : 390
rack travel mm : 1.35
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 250

Check
speed 1/min : > 80
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 79.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 78.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 50.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 9.60
Rated speed rpm : 1355
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.80
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 78.0
Tolerance
cm³/1000 strokes : +- 7.5
Check tolerance
cm³/1000S. : +- 10.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 10.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5

Spreed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000s. : 9.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.03.96
Test oil : ISO 4113
Combination No. : 0 400 876 435
Injection pump
Pump designation : PES6A95D410RS2864
EP type number : 0 410 896 888
Governor
Governor design. : RSV400...1050A8C2263
Governor no. : 0 420 232 636
Cust. part No. : 87 800 971

Customer-spec. information
Customer : NH
Motor : 7.5 L
Power KW : 185.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

M01

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 2.60
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2- : 4
Phasing : 0-60-120-180-240 : -300

BASIC SETTING

Rated speed rpm : 800
Rack travel in mm : 13.45
Tolerance mm : +- 0.10
Del. quantity cm3/1000 strokes : 144.0
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. : +- 3.0
Speed Tolerance cm3/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 8.0

 Rated speed rpm : 650

 Rack travel in mm : 4.70
 Tolerance mm : ± 0.10
 Del. quantity
 cm³/1000 strokes : 20.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spread
 Tolerance
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
 pre-tension
 click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 144.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 96.0
 tolerance degree : ± 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1058
 rack travel mm : 11.40

 Rated speed rpm : 1091
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1250

 Rated speed rpm : 1059
 rack travel mm : 11.40

 Rated speed rpm : 1092
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1250

 Rated speed rpm : 1060
 rack travel mm : 11.40

 Rated speed rpm : 1093
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1250

 Rated speed rpm : 1061
 rack travel mm : 11.40

 Rated speed rpm : 1094
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1250

 Rated speed rpm : 1062
 rack travel mm : 11.40

 Rated speed rpm : 1095
 Tolerance 1/min : ± 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1250

 Rated speed rpm : 1063
 rack travel mm : 11.40

 Rated speed rpm : 1096
 Tolerance 1/min : ± 5

rack travel mm : 4.00
rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 79.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 650
rack travel mm : 4.70
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 740
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 13.45
Tolerance mm : + 0.10

Rated speed rpm : 500
rack travel mm : 13.50
Tolerance mm : + 0.10

Rated speed rpm : 1025
rack travel mm : 11.90
Tolerance mm : + 0.05

Rated speed rpm : 1025
rack travel mm : 12.40
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.50
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.90

Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 750
rack travel mm : 12.30
Tolerance mm : + 0.05

Pressure hPa : 550
rack travel mm : 10.00
Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 70.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : + 8.0
Check tolerance
cm³/1000S. : + 11.0

LOW IDLE

Rated speed rpm : 650
rack travel mm : 4.70
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Speed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.03.96
Test oil : ISO 4113

Combination No. : 0 402 736 834

Injection pump
Pump designation : PES6P120A120RS7265
EP type number : 0 412 726 882

Governor
Governor design. : RQV350...1100PA964
 : -12K
Governor no. : 0 421 815 323

Cust. part No. : 3922471

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

M05

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 211.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 23.5

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 211.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 117.0

tolerance degree : +- 6.0

RATED SPEED

M06

rack travel mm : 12.40

Rated speed rpm : 1280

Tolerance 1/min : +- 15

rack travel mm : 4.00

Rated speed rpm : 1405

Tolerance 1/min : +- 5

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 70.0

tolerance degree : +- 6.0

Testing:

Rated speed rpm : 350

rack travel mm : 6.80

Tolerance mm : +- 0.20

Rated speed rpm : 275

CRT mm min. : > 8.30

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100

rack travel mm : 13.95

Tolerance mm : +- 0.05

Rated speed rpm : 650

rack travel mm : 12.20

Tolerance mm : +- 0.20

Rated speed rpm : 1200

rack travel mm : 13.50

Tolerance mm : +- 0.10

Rated speed rpm : 750

rack travel mm : 12.40

Tolerance mm : +- 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.90
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 650
rack travel mm : 12.70
Tolerance mm : ± 0.20

Pressure hPa : 310
rack travel mm : 10.20
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check speed 1/min : > 80
Check speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 176.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 86.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1280
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 23.5
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.03.96
Test oil : ISO 4113

Combination No. : 0 402 736 895

Injection pump
Pump designation : PES6P120A12ORS7353
EP type number : 0 412 726 924

Governor
Governor design. : RQV350...1100PA1176
 : -1K
Governor no. : 0 421 815 496

Cust. part No. : 3930611

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 186.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 211.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 23.5

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 2.28
Tolerance mm : +- 0.25

Rated speed rpm : 1282
guide sleeve
travel mm : 9.01
Tolerance mm : +- 0.25

Rated speed rpm : 452
guide sleeve
travel mm : 3.50
Tolerance mm : +- 0.25

Rated speed rpm : 402
guide sleeve
travel mm : 2.91
Tolerance mm : +- 0.25

Rated speed rpm : 1640
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 211.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : +- 6.0

RATED SPEED

rack travel mm : 12.40
Rated speed rpm : 1280
Tolerance 1/min : +- 15

rack travel mm : 8.00
Rated speed rpm : 1345
Tolerance 1/min : +- 5

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1460

LOW IDLE

control lever
position degree : 68.0
tolerance degree : +- 6.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.70
Tolerance mm : +- 0.20

Rated speed rpm : 275

CRT mm min. : > 8.20

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.95
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 11.95
Tolerance mm : ± 0.20

Rated speed rpm : 1200
rack travel mm : 13.60
Tolerance mm : ± 0.10

Rated speed rpm : 750
rack travel mm : 12.30
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 9.30
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 650
rack travel mm : 13.00
Tolerance mm : ± 0.20

Pressure hPa : 310
rack travel mm : 10.70
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

M10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 173.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 92.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1280
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.80
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 23.5
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.96
Test oil : ISO 4113
Combination No. : 0 402 736 910
Injection pump
Pump designation : PES6P120A720RS7351
EP type number : 0 412 726 922
Governor
Governor design. : RQV450...1100PA1291K
Governor no. : 0 421 815 526
Cust. part No. : 3931948

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 086
Inlet press. bar : 2.0
Tolerance bar : +- 0.1
Test nozzle holde
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

M12

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : +- 1.0
Prestroke mm : 4.40
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75
Start of delivery blocking
°NW after s.o.d. : 7.00
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 14.75
Tolerance mm : +- 0.05
Del. quantity
cm³/1000 strokes : 215.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 27.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 450
guide sleeve	
travel mm	: 1.23
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1183
guide sleeve	
travel mm	: 7.71
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 870
guide sleeve	
travel mm	: 4.59
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1570
guide sleeve	
travel mm	: 13.50
Tolerance mm	: ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: -

Del. quantity	
cm ³ /1000 strokes	: 215.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 116.0
tolerance degree	: ± 6.0

RATED SPEED

rack travel mm	: 13.70
Rated speed rpm	: 1165
Tolerance 1/min	: ± 15

rack travel mm	: 7.80
Rated speed rpm	: 1250
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1375

LOW IDLE

control lever	
position degree	: 76.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 450
rack travel mm	: 6.80
Tolerance mm	: ± 0.20

Rated speed rpm	: 325
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CRT mm min.	: > 8.50
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Rated speed rpm	: 525
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TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 14.75

Tolerance mm : \pm 0.05
Rated speed rpm : 800
rack travel mm : 13.80
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 12.70
Tolerance mm : \pm 0.20

Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 207.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BREAKAWAY

Rack travel in mm : 13.70
Rated speed rpm : 1165
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.80
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 180.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 27.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.03.96
Test oil : ISO 4113
Combination No. : 0 402 776 838
Injection pump
Pump designation : PES6P120A720RS7382
EP type number : 0 412 726 943
Governor
Governor design. : RSV625...1100POA547
 : -14
Governor no. : 0 421 833 545
Cust. part No. : RE67358

Customer-spec. information
Customer : DEERE
Motor : 6081 HZ001
Power KW : 214.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 079
Inlet press. bar : 2.0
Tolerance bar : ± 0.1
Test nozzle holder assembly : 1 688 901 103
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75
Start of delivery mark
°NW after s.o.d. : 9.50
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75
Barrel no. : 1
Beginning of delivery difference and maximum rack travel : 14.00
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 196.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 21.5
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 3.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 2000
Del. quantity
cm³/1000 strokes : 196.0

Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 97.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.40
Rated speed rpm : 1175
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1235

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1235

LOW IDLE

control lever
position degree : 78.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 625
rack travel mm : 4.50

Testing:

Rated speed rpm : 625
rack travel mm : 5.00
Tolerance mm : + 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.45
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 13.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.60
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 1350
rack travel mm : 12.30
Tolerance mm : \pm 0.20

Pressure hPa : 630
rack travel mm : 10.50
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 262.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 136.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

M17

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1175
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 21.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.03.96
Test oil : ISO 4113

Combination No. : 0 403 466 161

Injection pump
Pump designation : PES6MW100/12ORS1240
EP type number : 0 413 406 239

Governor
Governor design. : RSV500...1100MW2A379
Governor no. : 0 420 085 262

Cust. part No. : 3926882

Customer-spec. information

Customer : CDC
Motor : 6 CT
Power KW : 161.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

M18

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 8.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack
travel : 15.00
Difference ° CS : 1.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.25
Tolerance mm : +- 0.05

Del. quantity
cm3/1000 strokes : 144.5

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 4.0

Spreed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 7.5

Del. quantity
cm3/1000 strokes : 21.5
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000S. : +- 4.5
Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm3/1000 strokes : 144.5

Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0
Spreed
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.20
Rated speed rpm : 1160
Tolerance 1/min : +- 5

rack travel mm : 5.30
Rated speed rpm : 1230
Tolerance 1/min : +- 5

rack travel mm : 1.00
Tolerance mm : +- 0.70
Rated speed rpm : 1375

rack travel mm : 5.30
Rated speed rpm : 1235

LOW IDLE

control lever
position degree : 83.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 4.70

Testing:

Rated speed rpm : 500
rack travel mm : 5.20
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.25
Tolerance mm : +- 0.05

Rated speed rpm : 750
rack travel mm : 12.70
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 790
rack travel mm : 11.90
Tolerance mm : +- 0.20

Pressure hPa : 620
rack travel mm : 11.30
Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 155.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 119.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1160
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 1.00
Del. quantity
cm³/1000 strokes : 145.5
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 13.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 21.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.96
Test oil : ISO 4113
Combination No. : 9 400 030 733
Injection pump
Pump designation : PES4A95D320/3RS2880
EP type number : 9 410 037 214

Governor
Governor design. :
Governor no. : 9 420 034 712

Cust. part No. : 3930149

Customer-spec. information
Customer : CDC
Motor : 4BT3.9
Power KW : 78.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

M21

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 105.5

<hr/>	
Tolerance	
cm ³ /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: + 3.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 6.5
<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 20.5
Tolerance	
cm ³ /1000 strokes	: + 2.0
Check tolerance	
cm ³ /1000S.	: +- 4.5
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
<hr/>	
governor spring	
pre-tension	
click setting x	: 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1200
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm ³ /1000 strokes	: 105.5
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 6.5

CONTROL LEVER

control lever	
position degree	: 103.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 11.50
Rated speed rpm	: 1260
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 5.00
Rated speed rpm	: 1340
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1400
<hr/>	
rack travel mm	: 5.00
Rated speed rpm	: 1340

LOW IDLE

control lever	
position degree	: 78.0
tolerance degree	: + 4.0

Setting point w/out bumper spring

Rated speed rpm	: 425
rack travel mm	: 5.00

Testing:

Rated speed rpm	: 425
rack travel mm	: 5.50
Tolerance mm	: + 0.10

Rated speed rpm	: 100
CRT mm min.	: > 19.00

TORQUE CONTROL

Rated speed rpm	: 1200
rack travel mm	: 12.55
Tolerance mm	: + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.90
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 660
rack travel mm : 12.20
Tolerance mm : +- 0.20

Pressure hPa : 460
rack travel mm : 11.40
Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 80.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 11.50
Rated speed rpm : 1260
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 120.0

Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113

Combination No. : 9 400 030 740

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. :
Governor no. : 9 420 034 719

Cust. part No. : 3929410

Customer-spec. information
Customer : CDC
Motor : 6BT
Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

M24

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.85
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 90.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 18.5

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 4.5

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure
hPa : 900

Del. quantity
cm³/1000 strokes : 90.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 103.0

RATED SPEED

rack travel mm : 9.85

Rated speed rpm : 1250

Tolerance 1/min : +- 5

rack travel mm : 4.50

Rated speed rpm : 1305

Tolerance 1/min : +- 5

rack travel mm : 0.85

Tolerance mm : +- 0.55

Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 86.0

Setting point w/out bumper spring

Rated speed rpm : 425

rack travel mm : 4.60

Testing:

Rated speed rpm : 425

rack travel mm : 5.10

Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1200

rack travel mm : 10.85

Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : 900

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 800
rack travel mm : 8.70
Tolerance mm : +- 0.20

Rated speed rpm : 800

Pressure hPa : 450
rack travel mm : 10.50
Tolerance mm : +- 0.20

Pressure hPa : 275
rack travel mm : 9.50
Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 65.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 9.85
Rated speed rpm : 1250
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 120.5
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 18.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.03.96
Test oil : ISO 4113
Combination No. : 0 401 848 830
Injection pump
Pump designation : PE8P110A320LS3865
EP type number : 0 411 818 728
Governor
Governor design. : RQV250...1000PA1286
Governor no. : 0 421 814 175

Cust. part No. :

Customer-spec. information
Customer : DHI
Motor : V2-8TC

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.00
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

Start of delivery mark

Tolerance : + 0.50
Check
tolerance °NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.00
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 142.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 250

Rack travel in mm : 8.10
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.31
Tolerance mm : + 0.20

Rated speed rpm : 1058
guide sleeve
travel mm : 8.56
Tolerance mm : + 0.15

Rated speed rpm : 666
guide sleeve
travel mm : 5.29
Tolerance mm : + 0.25

Rated speed rpm : 380
guide sleeve
travel mm : 3.20
Tolerance mm : + 0.25

Rated speed rpm : 1300
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 12.00
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 142.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

CONTROL LEVER

control lever
position degree : 65.0
tolerance degree : + 4.0

control lever
position degree : 120.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.00
Rated speed rpm : 1045
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1155
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 71.0

tolerance degree : +- 4.0
control lever
position degree : 16.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 8.10
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm min. : > 9.50

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 13.00
Tolerance mm : +- 0.05

Rated speed rpm : 650
rack travel mm : 13.00
Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 190

Check
speed 1/min : > 80
Check
speed 1/min : < 210

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm3/1000 strokes : 145.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1045

N01

Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 125.0
Tolerance
cm3/1000 strokes : +- 20.0
Check tolerance
cm3/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 8.10
Tolerance mm : +- 0.30
Del. quantity
cm3/1000 strokes : 25.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113
Combination No. : 0 402 646 968
Injection pump
Pump designation : PE6P120A320RS7248
: -10
EP type number : 0 412 626 900
Governor
Governor design. : RQV275...1150PA986
Governor no. : 0 421 813 920
Cust. part No. : 1248033/6

Customer-spec. information
Customer : DAF
Motor : RS 222 L
Power KW : 222.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Overflow quantity
min. l/h : 130
Tolerance l/h : ± 10.0
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

N02

Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 12.50
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 187.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 5.40
 Tolerance mm : + 0.10

Del. quantity
 cm³/1000 strokes : 16.0

Tolerance
 cm³/1000 strokes : + 3.0

Check tolerance
 cm³/1000S. : + 6.0

Spreed
 Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
 guide sleeve
 travel mm : 1.45
 Tolerance mm : + 0.15

Rated speed rpm : 1207
 guide sleeve
 travel mm : 8.25
 Tolerance mm : + 0.25

Rated speed rpm : 800
 guide sleeve
 travel mm : 5.21
 Tolerance mm : + 0.25

Rated speed rpm : 315
 guide sleeve
 travel mm : 1.98
 Tolerance mm : + 0.25

Rated speed rpm : 385
 guide sleeve
 travel mm : 2.52
 Tolerance mm : + 0.25

Rated speed rpm : 450
 guide sleeve
 travel mm : 3.07
 Tolerance mm : + 0.25

Rated speed rpm : 1500
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1325

Rack travel in mm : 11.20
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : -

Del. quantity
 cm³/1000 strokes : 187.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 119.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.25
 Rated speed rpm : 1207
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1320
 Tolerance 1/min : + 15

rack travel mm : 0.70
 Tolerance mm : + 0.70
 Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 83.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.70
Tolerance mm : ± 0.10

Rated speed rpm : 175

CRT min min. : > 6.70

Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.25
Tolerance mm : ± 0.05

Rated speed rpm : 1150
rack travel mm : 12.25
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 12.25
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 9.40
Tolerance mm : ± 0.10

Rated speed rpm : 600

Pressure hPa : 420
rack travel mm : 11.65
Tolerance mm : ± 0.05

Pressure hPa : 240
rack travel mm : 10.40
Tolerance mm : ± 0.10

N04

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.25
Rated speed rpm : 1207
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note Remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.96
Test oil : ISO 4113

Combination No. : 0 402 648 791

Injection pump
Pump designation : PE8P120A320LS7875
EP type number : 0 412 628 881

Governor
Governor design. : RQV250...1150PA1287
Governor no. : 0 421 814 176

Cust. part No. :

Customer-spec. information
Customer : DHI
Motor : V2-8TC
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance l/h : +- 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 089

N05

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.20
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 16.00
Tolerance mm : +- 1.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.40
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 210.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 7.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 10.0
<hr/>	
Rated speed rpm	: 250
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: ± 0.30
Del. quantity	
cm ³ /1000 strokes	: 20.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.61
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1206
guide sleeve	
travel mm	: 8.32
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 1168
guide sleeve	
travel mm	: 7.78
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 640
guide sleeve	
travel mm	: 4.91
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1420
guide sleeve	
travel mm	: 11.50

NO6

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1270
<hr/>	
Rack travel in mm	: 12.40
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 210.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 7.0
Check tolerance	
cm ³ /1000S.	: 10.0

CONTROL LEVER

control lever	
position degree	: 56.0
tolerance degree	: ± 4.0
<hr/>	
control lever	
position degree	: 120.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 12.40
Rated speed rpm	: 1195
Tolerance 1/min	: ± 5
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rack travel mm	: 4.00
Rated speed rpm	: 1275
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1400

LOW IDLE

control lever
position degree : 87.0
tolerance degree : ± 4.0

control lever
position degree : 23.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 8.60

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 13.40
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 13.40
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.20
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 325
rack travel mm : 9.50
Tolerance mm : ± 0.20

Pressure hPa : 800
rack travel mm : 12.10
Tolerance mm : ± 0.05

NO7

START CUT-OUT

Rated speed rpm : > 165
Rated speed rpm : < 190

Check
speed 1/min : > 155
Check
speed 1/min : < 210

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 229.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.03.96
Test oil : ISO 4113

Combination No. : 0 402 676 831

Injection pump
Pump designation : PE6P120A320/3LS7895
EP type number : 0 412 626 955

Governor
Governor design. : RSV600...1050POA642
Governor no. : 0 421 833 556

Cust. part No. : 0270748402

Customer-spec. information
Customer : MB-NFZ
Motor : OM 441 LA
Power KW : 285.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance l/h : +- 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

NO9

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.75
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-45-120-165-240
: -285
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark
Tolerance : +- 0.10
Check
tolerance °NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 14.20
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 251.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 600

Rack travel in mm : 4.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 251.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 93.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.20
Rated speed rpm : 1115
Tolerance 1/min : ± 5

LOW IDLE

control lever
position degree : 77.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 600
rack travel mm : 4.20
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1075
rack travel mm : 14.20
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 15.25
Tolerance mm : ± 0.10

Rated speed rpm : 1000
rack travel mm : 14.85
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 291.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

BREAKAWAY

Rack travel in mm : 13.20
Rated speed rpm : 1115
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.75
Tolerance mm : ± 0.25
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 600
rack travel mm : 4.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.96
Test oil : ISO 4113

Combination No. : 0 402 946 017

Injection pump
Pump designation : PES6P120A72ORS8039
EP type number : 0 412 926 026

Governor
Governor design. : RQV250...950PA1243
Governor no. : 0 421 814 162

Cust. part No. : 1374808

Customer-spec. information
Customer : SCANIA
Motor : DSC 11.79

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 115
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.15
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.90
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes :	298.0
<hr/>	
Tolerance	
cm ³ /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	+ 9.0
<hr/>	
Speed	
Tolerance	
cm ³ /1000 strokes :	8.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	14.0
<hr/>	
Rated speed rpm :	250
<hr/>	
Rack travel in mm :	5.60
Tolerance mm :	+ 0.30
Del. quantity	
cm ³ /1000 strokes :	21.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S. :	+ 6.0
Speed	
Tolerance	
cm ³ /1000 strokes :	4.0
Check tolerance	
cm ³ /1000S. :	8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	250
guide sleeve	
travel mm :	1.33
Tolerance mm :	+ 0.20
<hr/>	
Rated speed rpm :	1008
guide sleeve	
travel mm :	8.61
Tolerance mm :	+ 0.15
<hr/>	
Rated speed rpm :	732
guide sleeve	
travel mm :	6.35
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	470
guide sleeve	
travel mm :	4.09
Tolerance mm :	+ 0.25

Rated speed rpm :	1260
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm :	1165
Rack travel in mm :	10.90
Tolerance mm :	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure	
hPa :	1500
Del. quantity	
cm ³ /1000 strokes :	298.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S. :	+ 9.0
Speed	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S. :	14.0

CONTROL LEVER

control lever	
position degree :	55.0
tolerance degree :	+ 4.0
<hr/>	
control lever	
position degree :	119.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	10.90
Rated speed rpm :	995
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1115
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1200

LOW IDLE

control lever
position degree : 81.0
tolerance degree : ± 4.0

control lever
position degree : 17.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 8.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.90
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 11.90
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.90
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.20
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 10.30
Tolerance mm : ± 0.15

Pressure hPa : 600
rack travel mm : 11.40

Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 170

Check
speed 1/min : > 80
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 282.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 225.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.96
Test oil : ISO 4113
Combination No. : 0 402 996 002
Injection pump
Pump designation : PE6P120A720LS8032
EP type number : 0 412 926 023
Governor
Governor design. : RE30
Governor no. : 0 421 890 025

Cust. part No. : 1364497

Customer-spec. information
Customer : SCANIA
Motor : DSC1201

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.85

Prestroke mm : 3.85
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

°NW after s.o.d. : 180.00
Tolerance : ± 0.50

Check tolerance °NW : +- 0.75
Barrel no. : 1

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min⁻¹: 0
Setting point (P, R and H pump)
Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check tolerance mm : +/- 0.10
Check value (P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.30

Setting point (M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check tolerance mm : +/- 0.10

Check value (M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with deenergised adjusting magnet

and control rod in stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference Amplitude to Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.400
Del. quantity cm³/1000 strokes : 372.0
Tolerance cm³/1000 strokes : +- 1.0
Check tolerance cm³/1000S. : +- 11.0
Spreed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 14.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 3.400
Del. quantity cm³/1000 strokes : 327.0
Tolerance cm³/1000 strokes : +- 4.0
Check tolerance cm³/1000S. : +- 10.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.03.96
Test oil : ISO 4113
Combination No. : 0 403 446 301
Injection pump
Pump designation : PES6MW100/72ORS1131
: -1
EP type number : 0 413 406 165
Governor
Governor design. : RQV300...1300MW50
: -22
Governor no. : 0 420 083 268
Cust. part No. : 0220745102

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 14.45
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 113.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 300

Rack travel in mm : 7.30
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.37
Tolerance mm : ± 0.20

Rated speed rpm : 1355
guide sleeve
travel mm : 8.66
Tolerance mm : ± 0.15

Rated speed rpm : 885
guide sleeve
travel mm : 5.01
Tolerance mm : ± 0.25

Rated speed rpm : 500
guide sleeve
travel mm : 2.92
Tolerance mm : ± 0.25

Rated speed rpm : 1610
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 9.00

N20

Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 113.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 114.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1480
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 80.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.30
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 8.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 14.45
Tolerance mm : +- 0.05

Rated speed rpm : 750
rack travel mm : 14.45
Tolerance mm : +- 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 14.45
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.95
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 500
rack travel mm : 13.80
Tolerance mm : +- 0.10

Pressure hPa : 200
rack travel mm : 11.20
Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check speed 1/min : > 80
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000
Rated speed rpm : 750
Del. quantity cm3/1000 strokes : 109.0

Tolerance cm3/1000 strokes : +- 1.5
Check tolerance cm3/1000S. : +- 4.0

Spreed Tolerance cm3/1000 strokes : 5.0
Check tolerance cm3/1000S. : 7.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 42.0
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : +- 5

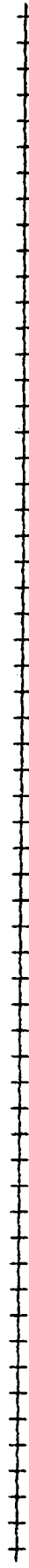
STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm3/1000 strokes : 105.0
Tolerance cm3/1000 strokes : +- 5.0
Check tolerance cm3/1000S. : +- 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.30
Tolerance mm : +- 0.20
Del. quantity cm3/1000 strokes : 12.0
Tolerance cm3/1000 strokes : +- 2.0
Check tolerance cm3/1000S. : +- 4.5
Spreed Tolerance cm3/1000 strokes : 3.5
Check tolerance cm3/1000S. : 5.5

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.96
Test oil : ISO 4113
Combination No. : 0 403 476 145
Injection pump
Pump designation : PES6MW100/32ORS1244
EP type number : 0 413 406 244
Governor
Governor design. : RSV500...1100MW1A399
Governor no. : 0 420 085 289

Cust. part No. :

Customer-spec. information
Customer : SISU
Motor : 634 DWE
Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holder assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75
Start of delivery blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1075
Rack travel in mm : 12.10
Tolerance mm : ± 0.05
Del. quantity cm³/1000 strokes : 140.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000s. : ± 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

Rated speed rpm : 500

Rack travel in mm : 3.30
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 4.5

Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
 Tolerance mm : +- 0.35

governor spring
 pre-tension
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 140.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

control lever
 position degree : 112.0
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.10
 Rated speed rpm : 1130
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : +- 15

rack travel mm : 1.00
 Tolerance mm : +- 0.70
 Rated speed rpm : 1300

rack travel mm : 4.00
 Rated speed rpm : 1190

LOW IDLE

control lever
 position degree : 84.0
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 500
 rack travel mm : 2.80

Testing:

Rated speed rpm : 500
 rack travel mm : 3.30
 Tolerance mm : +- 0.10

rack travel mm : 2.00
 Rated speed rpm : 540
 Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1075
 rack travel mm : 12.10
 Tolerance mm : +- 0.05

Rated speed rpm : 600
 rack travel mm : 12.10
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.10
Tolerance mm : +- 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.50
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 750
rack travel mm : 11.60
Tolerance mm : +- 0.15

Pressure hPa : 400
rack travel mm : 10.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 146.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 94.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1130
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0

LOW IDLE

Rated speed rpm : 500
rack travel mm : 3.30
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.03.96
Test oil : ISO 4113
Combination No. : 9 400 083 422
Injection pump
Pump designation : PES3A80D320/3RS1264
EP type number : 9 400 083 053
Governor
Governor design. : RSV350...1200A2C627R
Governor no. : 9 420 083 288
Cust. part No. :

Customer-spec. information

Customer : MWM
Motor : D225-3

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 003
Outside diameter : 6.0
x inside diameter : 2.0

N26

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 2.25
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 2- 3

Phasing : 0-120-240

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : +- 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 9.45
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 51.0

Tolerance
cm³/1000 strokes : +- 0.5

Check tolerance
cm³/1000S. : +- 2.0

Spread

Tolerance
 cm³/1000 strokes : 2.5

 Check tolerance
 cm³/1000S. : 4.0
 Rated speed rpm : 350
 Rack travel in mm : 7.00
 Tolerance mm : +- 0.10
 Del. quantity
 cm³/1000 strokes : 9.0
 Tolerance
 cm³/1000 strokes : +- 1.5
 Check tolerance
 cm³/1000S. : +- 3.5
 Spread
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : +- 0.35
 governor spring
 pre-tension
 click setting x : 4.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 51.0
 Tolerance
 cm³/1000 strokes : +- 0.5
 Check tolerance
 cm³/1000S. : +- 2.0
 Spread
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.0

CONTROL LEVER

control lever
 position degree : 50.0
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 8.40
 Rated speed rpm : 1245
 Tolerance 1/min : +- 5
 rack travel mm : 4.00
 Rated speed rpm : 1300
 Tolerance 1/min : +- 15
 rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1400

LOW IDLE

control lever
 position degree : 20.0
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
 rack travel mm : 5.50

Testing:

Rated speed rpm : 350
 rack travel mm : 6.00
 Tolerance mm : +- 0.10
 rack travel mm : 2.00
 Rated speed rpm : 520
 Tolerance 1/min : +- 30
 Rated speed rpm : 100
 CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 9.45
 Tolerance mm : +- 0.05
 Rated speed rpm : 500
 rack travel mm : 9.50
 Tolerance mm : +- 0.10
 Rated speed rpm : 400
 rack travel mm : 10.90

Tolerance mm : \pm 0.30

BREAKAWAY

Rack travel in mm : 8.40
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 350
rack travel mm : 7.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 9.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet